THE WORLD'S BIGGEST SELLING AMIGA MAGAZINE

AMIGA FORMAT

SPECIAL EDITION ONE
FREE WITH AMIGA 600 PACKS

Get to know your Amiga

Amiga Format's informative guide to getting started with your new Amiga 600

GAMEBUSTERS ● Stuck on Putty, Epic, Myth, Rome, Push Over or even Formula One Grand Prix? Read four pages of tips on your games
WORKBENCH ● Discover the true power of your Amiga!
SCREENPLAY ● Explore the Amiga Format All Time Top 30 Games

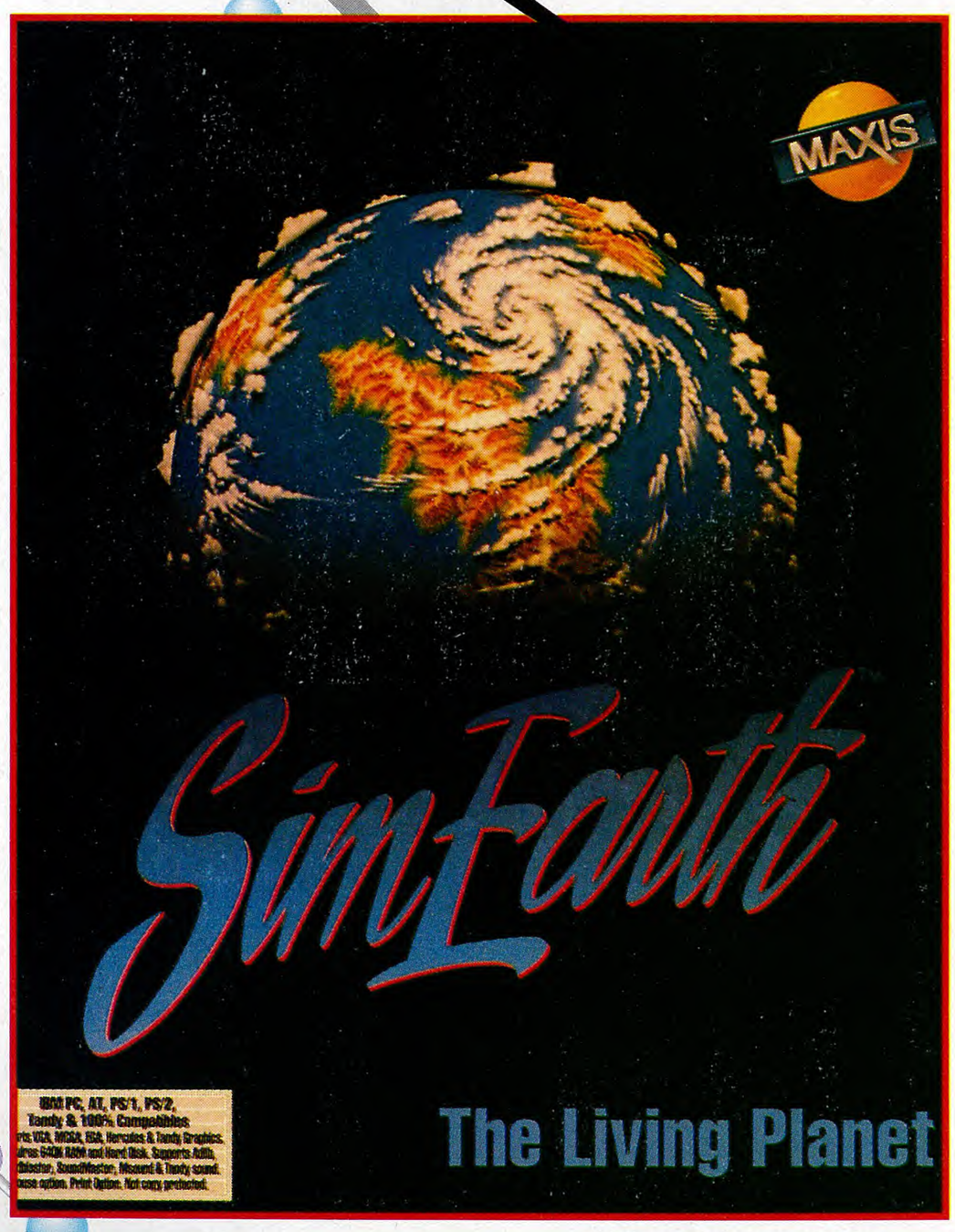
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Inspired by James ovelock's Gaia hypothesis, im Earth looks at the world s one interrelated living rganism offering you the ltimate experience in lanet management. Design nd nurture planets from heir creation through the volution of life to the evelopment of intelligence nd technology that can each for the stars.

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AVAILABLE FOR: Macintosh, BM PC, Windows and Amiga.







*Choose from seven different planet scenarios.

*Rule unlimited random worlds.

*Terraform Venus and Mars.

*View your worlds as flat projections or spinning globes.

*Unleash volcanoes, earthquakes, meteors and tidal waves.

*Choose from 24 battlefields.

*Use the powerful icon-driven command language: with a simple point and click, robots can be instructed to commence in full melee.

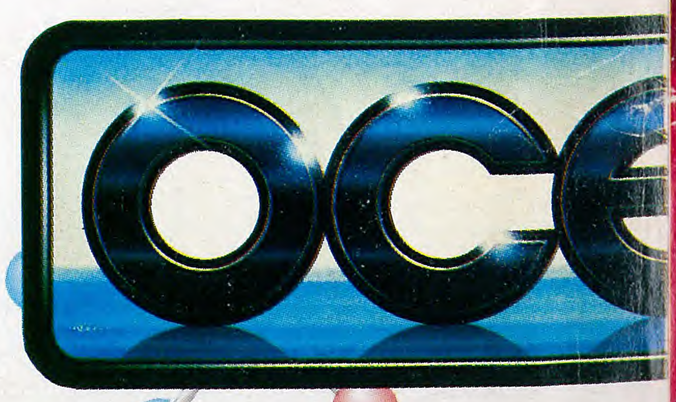
*Challenge your friends (and enemies) through network support for up to four machines.

*Use modem and serial link to mix and match games on Macintosh, Amiga or Windows versions.



AVAILABLE FOR: Macintosh, Windows and Amiga.

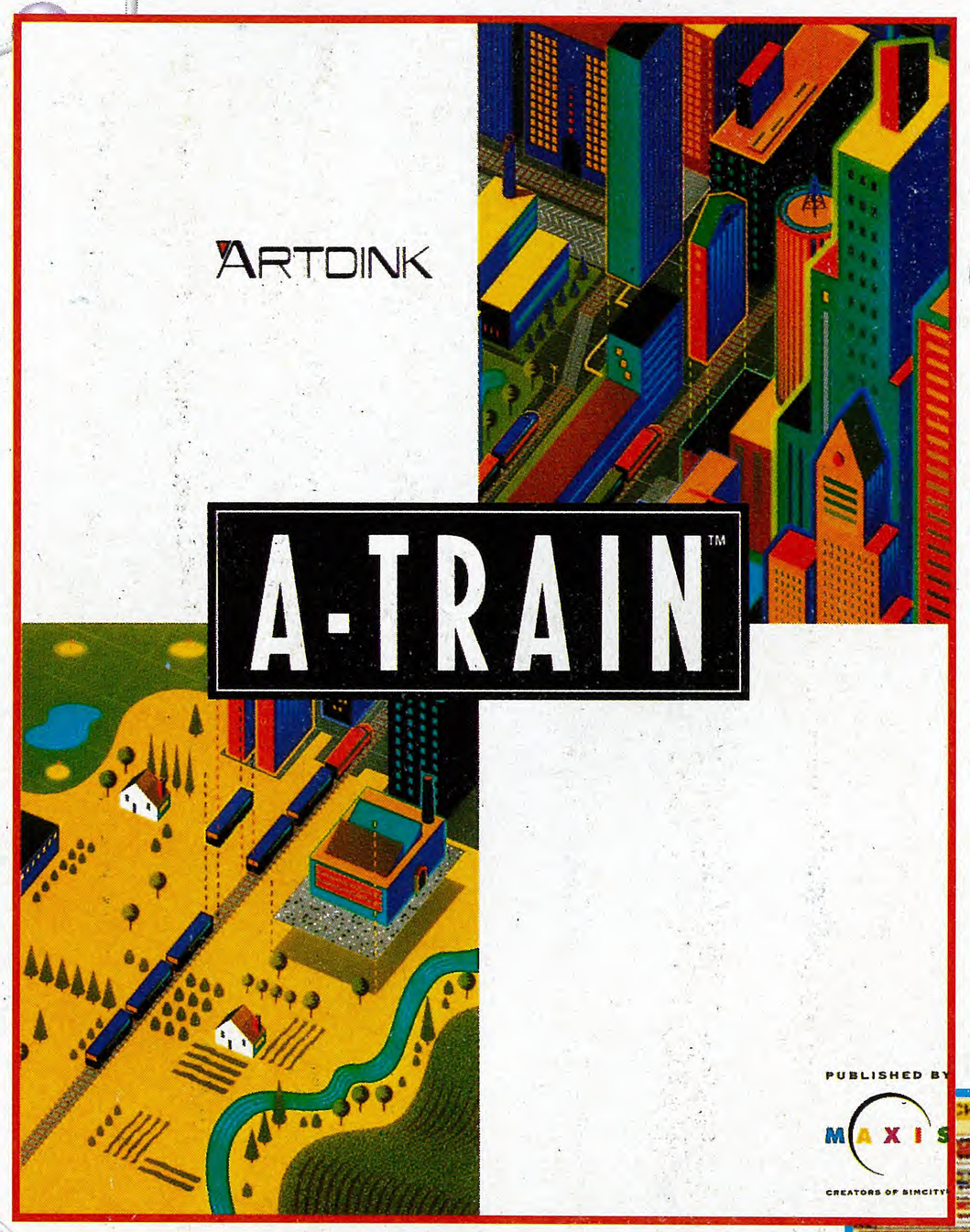
Armed with bombs, bullets, missiles, grenades and more, you control teams of Robots that compete in five different sports: Survival, Treasure Hunt, Capture the Flag, Hostage and Baseball. By combining the tactical challenge of chess with the intensity of guerrilla warfare, RoboSport provokes total strategic mayhem. TM & © 1991 Maxis and Edward Kilham. All rights reserved.



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MAGIC





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*Choose from 19 different train engines.

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*Build apartments, offices, factories, ski resorts, amusement parks and more.

*Get all of the professional advice you need from the many on-screen experts in A-Train.

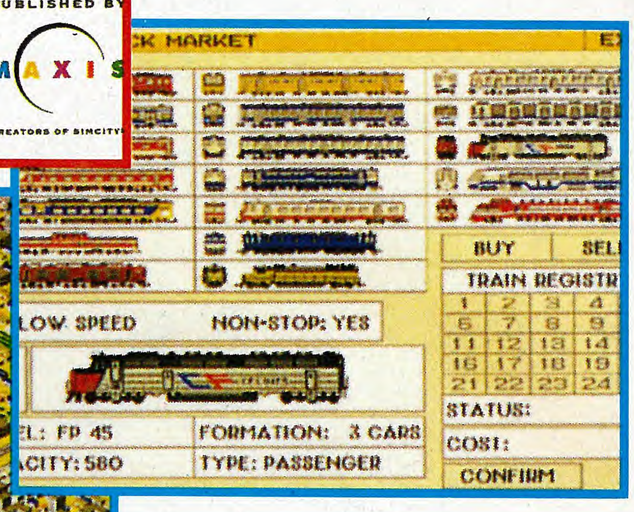
AVAILABLE FOR: IBM PC, Macintosh and Amiga.

Sure A-Train has trains... but there's a lot more to it than making tracks. This new simulation gives you the triple challenge of designing and running a profitable railroad, growing a city and building a financial empire. You can borrow money, invest in subsidiary business and dabble in the stock market as well. Six scenarios will take all the organisational talent, planning skills and fiscal genius you've got.

Maybe more. TM & © 1991 Artdink and Maxis. All rights reserved.





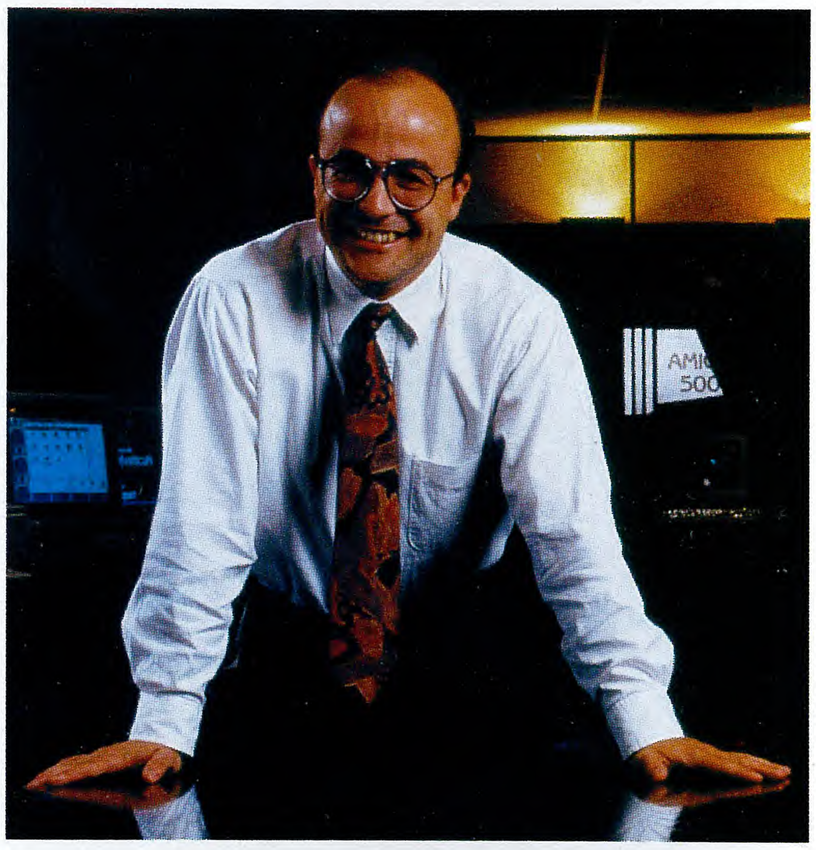


eam®

M2 5NS

Welcome to the Amiga...
Welcome to Amiga Format!

This special edition of Amiga Format, the world's biggest and best-selling Amiga magazine, has been lovingly prepared just for you as your introduction to the wonderful world of the Amiga. We hope that you enjoy it , that you find it useful and that you will read Amiga Format every month. But before we get into detail, here' s a special letter from Kelly Sumner, Managing Director of Commodore UK...



Dear Reader,

On behalf of Commodore it is my pleasure to welcome you to the world of the Amiga, the UK's favourite home computer.

I can safely say that the Amiga – in all of its guises – is the most exciting machine to have in your home bar none. In its A600 form, it is compact and bursting with good value for your money. In its CDTV (and CD-ROM, don't forget that your Amiga is well up to the task of playing CD-ROMs) form it is the way forward for entertainment and leisure.

But the Amiga doesn't stop in the home: not only do Britain's air-traffic controllers use it to train on, and the ITV Chart Show uses it for its graphics and its ability to work with broadcast-quality TV, you will also find that graphic artists, musicians, and animators also swear by the Amiga as the best machine to use.

We at Commodore are firmly behind the Amiga family – there is no reason why it shouldn't just keep on getting better and better – and are delighted to welcome you aboard. You've made the right decision. I hope you enjoy this special edition of Amiga Format which has been specially prepared for Commodore, and that the Amiga brings you as much enjoyment and benefits as it has to millions of other users the world over.

Kelly Sumner
MANAGING DIRECTOR – COMMODORE UK



Hello there, and welcome!

I'm Damien Noonan and I'm the editor of Amiga Format, the world's best-selling Amiga magazine. We've teamed up with Commodore, the makers of the Amiga, to bring you this special edition of the magazine.

The idea is to give you a little bit of help in your first few days with your new computer and also to give you a taste of what's on offer in the magazine every month. So what have we got lined up for you? Well, there's a fascinating feature which will fill you in on the history of the Amiga, and tips and hints to help you out with the games you got free in the pack. Find out what we recommend as the best 30 games around and discover the workings of your Workbench disk. And then explore the world of the Amiga beyond games, as we introduce you to all the other things you can do with your new machine.

But remember – this is just a taste of what's packed into the hundreds of pages of Amiga Format every month. Waiting for you at the local newsagent is a wonderful world of Amiga reviews, buying recommendations, tips, hints and advice.

Plus, every month our two Coverdisks include great playable demos of the latest games and also complete programs that have been on sale for as much as £100, brought to you for the price of a disk. Treat yourself – don't miss out on the world's most popular Amiga magazine, out on the second Thursday of every month!

Damien
EDITOR– AMIGA FORMAT

Contents

Welcome to the Wonderful World of the Amiga!





THE SECRET HISTORY OF THE AMIGA

Brought to you by the one and only **Amiga Format**, the magazine that knows all the facts! Discover the amazing history of the world's best computer – from the A100 to your A600, and have a darned good read at the same time. This is just one example of a fascinating **Amiga Format** feature! **Page 10**

GETTING THE MOST OUT OF DELUXE PAINT

We won't be happy if you just sit there and play games, you know. You won't be fulfilled. Oh, no! Your Amiga can give you hours of creative fun, and **Amiga Format** is the magazine that shows you how… starting here, with an instant-access guide to the enjoyable world of computer painting! **Page 32**



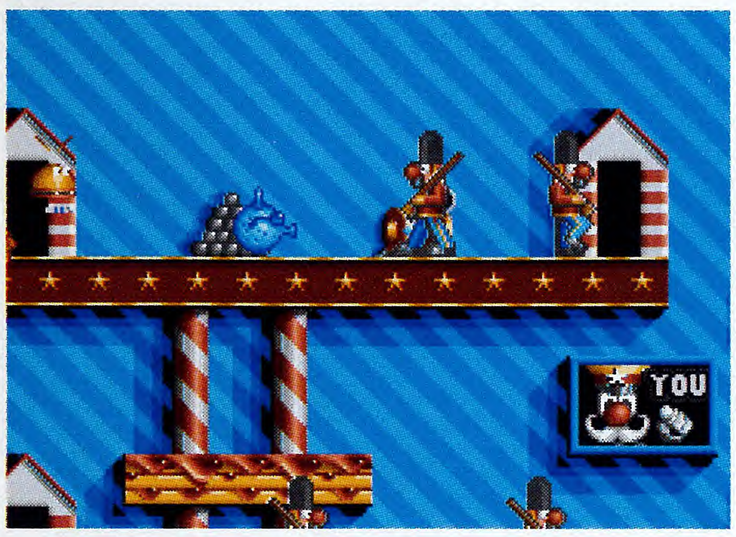


SCREEN PLAY – THE TOP 30 AMIGA GAMES

Who brings you the most honest, reliable and informative reviews of all the latest games, every single month? Yep, it's **Amiga Format**'s Screen Play section. If we recommend a game, you can be sure it's a winner: here are the games we reckon are the all-time sure-fire out-and-out best of the best! **Page 18**

ACCESS ALL AREAS

Yep, there's a whole lot more to your Amiga than games. You may find yourself becoming an Amiga artist, an animator, a video producer or musician: and it's our software and hardware reviews that will help you spend your money wisely along the way. Here, to get you started, is an intro to all the amazing things you can do with your Amiga, and advice on the best software and hardware in existence to do it with! **Page 36**





GAMEBUSTERS

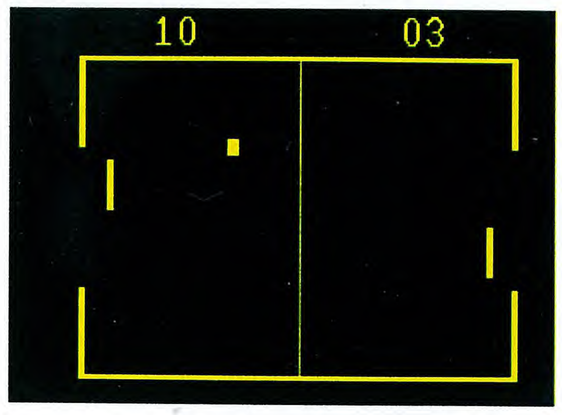
Stuck on a game? Just don't know how to get any further? What you need is an assist from Gamebusters, the section that busts all the top games, every month! Check out these tips and advice for the games that came with your Amiga… **Page 24**

THE WORKBENCH MAGICAL MYSTERY TOUR

The Workbench disk that comes with your Amiga is the most important disk in your collection, and **Amiga Format** has the experts who can explain its importance and can get you started on the path to becoming an Amiga expert yourself! **Page 46**

If you want the best guides, reviews, tips, hints, and more; then you want *Amiga Format* every month.

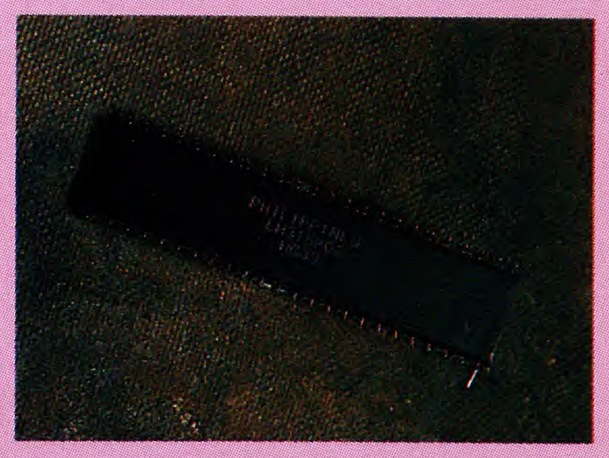
How do you set out aiming to do this...



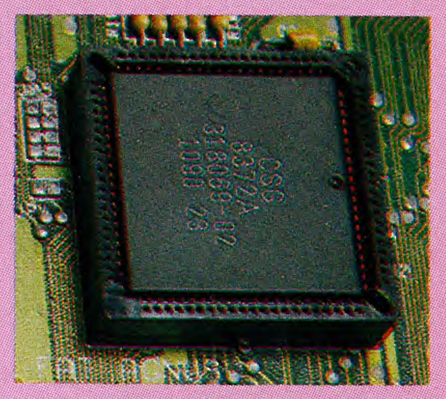
...and end up doing this?



Well, take three crazy Californians, $7 million and one of these...

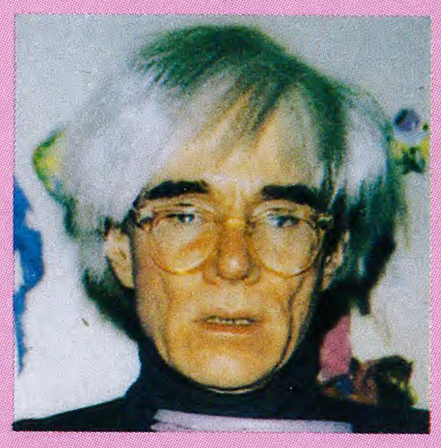


Then turn three tables full of circuit boards and wires into three of these...





throw in an artist



and a pop star



leave to simmer until you get this



Born to rule

The secret history of the Amiga 600

How much do you know about your new Amiga 600? Did you realise it has a secret past that involves Debbie Harry, Andy Warhol and three Californians meditating on surfboards? Do you have any idea of how the A600 works? Well, ***Amiga Format*** *presents yet another fascinating feature to keep you entertained...*

IF YOU'RE READING this special edition, you've probably just bought an Amiga 600. You almost certainly know a little bit about the machine, enough to know that it's powerful, it's good value, it's the most popular home computer in Britain.

But do you know what makes it so good and how it came to be? No? Well, read on. It's an interesting story.

It all starts in the days of the first great boom in popularity of computer games, back in 1982, a decade ago.

And, naturally enough, it starts in the area known as 'Silicon Valley' in California, USA, the area near Los Angeles where so many hi-tech companies were producing newer and better electronics almost every day...

Space Invaders**, the** first arcade computer game, had come, seen and conquered. Arcade coin-ops were big business in the early Eighties as games like *Asteroids, Defender* and *PacMan* came along to wow the 10p-wielding game fans.

But a fistful of 10ps didn't go far in those days, and the arcade machine market started slumping as a new kind of computer game came along – the home game console.

Starting with the incredibly naive 'tennis' games (black-and white, a bat and a ball and a beep), these had gone on to become rather more sophisticated, with games in *several* colours coming on plug-in cartridges.

Consoles were popular in America, but in Britain home computers were where it was at. The Sinclair ZX80, the first 'home computer', caught the minds of a generation and in 1982 a US-based company called Commodore launched their latest machine, an 8-bit wonder called the C64.

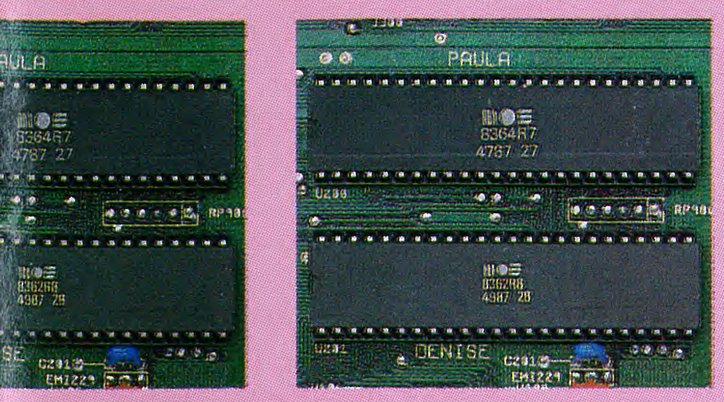
At this time, computer technology was advancing almost every day and eager consumers were queuing up to spend their money on something better than the neighbours had. So for anyone who could make something bigger, better and faster, success awaited...

So it was then that three guys with $7 million to invest – mere peanuts in terms of computer development – decided they were going to create the best computer games console the world had ever seen.

Certainly they had the experience. RJ Mical had designed arcade games for Williams, the company that created *Defender*. Jay Miner had designed the silicon chips used in the two most popular games consoles in the USA. And Dave Morse, a marketing man, had been on the team that made Tonka Toys popular.

...then spend about three years doing this.





Then develop for seven years to get this...



The best computer in the world!

They called their company Hi-Toro at first, but before long they decided they needed something a bit snappier and settled on Amiga, the Spanish for girlfriend.

So, the gameplan. The very latest piece of chip technology around was the Motorola 68000, the very first 16-bit central processor for a computer. Based around this chip, they would develop the fastest, most colourful games machine ever conceived.

But that would take time. And in the meantime, it was important that no-one should know what they were up to. So as a disguise, they also made a number of weird and wonderful joystick designs. Which leads to one of the strangest Amiga stories...



All computers crash. It happens when the data gets mixed up and they try to do something they can't. It's a fact.

Up until just a year ago, however, the Amiga would crash in style. Rather than just give a red warning saying the words 'System error', it would produce a message flashing 'Guru meditation'. Why should this be?

Well, basically it shows the whacky way-out Californian nature of the machine's creators. One of their crazy joystick designs was a surfboard on which you stood, leaning left and right for control. In those stressed-out moments when the prototype computer crashed horribly, they would go and sit cross-legged on the joyboard, chilling out with a 'bio-feedback' program running to show how relaxed they were. The fewer wobbles, the more meditative the guru. Weird, huh?

In between all the crashes, though, the new machine started to appear. The only thing the team lacked was discipline, so every time they thought of a new idea they threw it in.

Three tables full of circuit boards and bits of wire developed into a prototype called Zorro. But it had a keyboard, printer connections, a disk drive... it wasn't a games console, it was a real computer.

But... there was one big 'but'. They'd run out of money in a big way. The last major job was to compact the whole thing into a computer-size box and get it ready for production and marketing. They couldn't do it themselves and had to look for support.

So behind closed doors at the Consumer Electronics Show in June 1984, they showed off what they had to lots of major-league electronics companies, hoping to attract some interest. And they got it. One particular company put up a million dollars to help finish the project. Then, just before the project was finished, Commodore Business Machines leapt in and bought up the whole thing.

A new independent firm, Commodore-Amiga, was created to finish the project. Much work went into an operating system, with software publisher Electronic Arts assisting in the establishment of a standard file format for pictures.

Then, in June 1985 at the Consumer Electronics Show in Chicago, the new machine was launched. It was called the Amiga 1000, it came with only 256K of RAM and cost about £1,500. But it was massively ahead of its time.

At the launch, punk queen Debbie Harry from Blondie showed off the Amiga's musical abilities and sat as a model for artist Andy Warhol, who continued to use it until his death two years later. By which time a new, and more powerful, much cheaper Amiga had appeared.

The Amiga 500 was launched in 1986 and with its 512K of RAM and compact design at a price of only £399, it was a sure-fire winner. It had a cheaper 16-bit rival, but the it also had better capabilities: 32 colours for game screens, 4096 colours in HAM painting, sampled sounds.

The next four years were a story of the slow takeover by the A500 of the UK home computer market. The three older 8-bit machines – the Spectrum, Amstrad CPC and Commodore C64 – went out of fashion and the A500's 16-bit rival, the Atari ST, couldn't stand the pace. By 1990 the Amiga 500 was the best-selling home computer in Great Britain.

The Amiga had changed very little over the years, the only major modification being new versions of the operating system, Workbench, that comes with the machine – from version 1.2 to version 1.3 and then 1.3.2. Then, in October 1991, a radically different Amiga 500 appeared.

The Amiga 500 Plus was, effectively, the forerunner of the A600. It had the all-new Workbench 2.04, with a new Kickstart ROM chip twice the size of the old one at 512K. It had 1Mb of RAM, where older A500s had only 512K. It also had new versions of custom chips Agnus and Denise.

In early 1992, rumours of a new Amiga abounded. Then, finally, in April 1992, the all-new Amiga 600 was announced to the world. And, as it transpired, it was the first radically different Amiga since the A500 appeared in 1986. And you now own a machine that contains some very important developments for the future.

The obvious differences between the A500 and the A600 are cosmetic. The 600 is much smaller and more compact, with a slightly smaller keyboard. It can now easily be carried around.

The 600 also has a built-in TV modulator, which converts the Amiga's graphics output for use by a TV. Now all you need to have is a lead to connect your A600 to the telly, whereas A500 owners had to have a little box hanging out the back of the Amiga. You lucky people.

Another great advance is that the printed circuit board of the A600 is produced using a method called 'surface mount technology' which makes it much more reliable. This means Commodore can commit themselves to coming round to your house to fix it if it goes wrong – so remember to fill in that warranty card!

But there are two really crucial new things about the A600, and they are both to do with hardware expansion.

If you want to fit a hard drive to an A600, there's a new way of doing it – as owners of the A600HD, which comes with a 20Mb hard drive built in, will know. There is a connector for what are known as IDE hard drives: these are miniature hard drives, as used in portable computers, which are very small but still have capacities of anything up to 120Mb.

The other expansion connector is the 'credit card' slot on the side. This is of a type known as 'PCMCIA'. Commodore firmly believe that over

the next few years, this type of connector will become standard for all types of computer. And as it does so, expansions will become cheaper and cheaper.

Already, you can get hold of 4Mb RAM expansions that are barely larger than a credit card. Before long, modems, hard drives and other expansions should become widely available. There is also the prospect of battery-backed RAM cards, which will store data even after being unplugged from the Amiga, and of software coming on ROM cards, though this will not include games – it's too expensive. So, believe me, the future is looking good.

But what is it that has made the Amiga such a success? Well, you've heard the strange story of the guys who created it. Basically, it's their original, creative weirdness that has made it great.



The Amiga is such a cool computer! Even rock group The B-52s are in the hardware. Do you know where?

For example, the A500 had the name of a B-52s song, *Rock Lobster*, etched on the circuit board. The A600 carries on this tradition with the name of a more recent B-52s number, *June Bug*.

Up until 1988, every Amiga 500 had 'secret messages' built in, which would appear on the screen if you pressed the right keys. "We created the Amiga – they ****ed it up," read one of these messages.

It's this quirky genius that created a wonderful machine. The secret of the Amiga's success has been its graphics and sound – 32-colour games with samples rather than beeping noises. These capabilities are down to three chips known as the custom chips.

Each chip has a name. Paula is the soundchip, the one that makes stereo sound samples possible. Denise looks after the screen display. And at the heart of everything is Agnus, which has major responsibility for graphics.

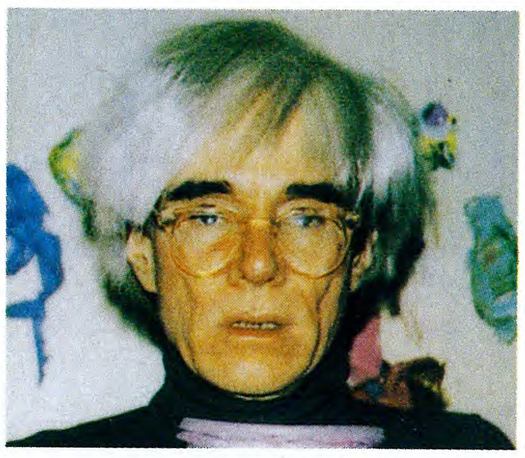
So how does it all work? Well, let's take a good hard look at roughly what's going on when your Amiga loads and runs a program.

1. Kickstart

Preparing the system for action is the job of a chip called Kickstart, which is a 512K ROM chip. ROM stands for Read-Only Memory: it's a chip that contains data, just the same way as a disk contains data, except that the data can never be wiped or replaced. The Kickstart chip on an Amiga is the same version number as the Workbench you use, so this is Kickstart 2.04.

2. Self-test

When you switch on your Amiga 600, the power reaches Kickstart first and it runs a few checks to make sure everything is working.



You and Andy Warhol both: yes, the world's best-known artist had an Amiga, and he loved it.

3. Disk drive ready?

Kickstart also contains the basic AmigaDOS (Amiga Disk Operating System) which controls the disk drive and enables data to be loaded from disk into RAM. After checking everything is OK, Kickstart loads the disk operating system and the disk drive is ready to have a disk put in. The Amiga shows that it's ready for a disk by putting onto the screen the animation of a disk being put into the drive.



Anything that's been anywhere near paragon of peroxide pop, Debbie Harry, has to be worth getting your hands on...

4. Disk types

Disks come in two kinds: self-booting, or not. If a disk is not self-booting, it means you have to put in the Workbench disk that came with your Amiga 600 before you can use it. Most games, however, are self-booting, whereas a majority of 'serious' programs are not. This is why your Workbench disk is so important – you'll need it to use a lot of programs.

5. Disk booting

Let's assume you put a self-booting game disk in. There is a portion at the start of the disk called a 'bootblock', which basically tells the disk drive that this is a self-booting disk. It also says how much data from the disk should now be loaded in and where on the disk that data is.

6. Memory

That data from the disk is now loaded into the Amiga's main memory, the RAM. RAM stands for Random Access Memory and is basically the main working area of the computer. The more of it you have, the more space your Amiga has to work in.

Because computer data is binary, made up entirely of ones and zeros, memory is measured according to how many ones or zeros you can fit in. Each one or zero is called a 'bit', and eight bits make a byte.

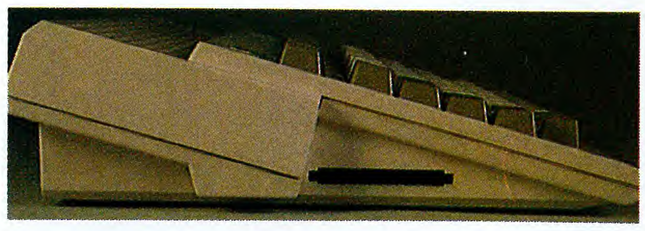
1,024 bytes is a Kilobyte, usually indicated by the letter K after a number: so an Amiga floppy disk, for instance, holds 880K. 1,024K is a Megabyte, usually abbreviated to Mb after a number: your new Amiga 600 has 1Mb. Clear?

The standard Amiga 600 has 1Mb or 1,024K total of RAM. The main reason Commodore have decided to sell the Amiga with 1Mb of RAM in total nowadays is that for quite a while people have been writing games that can only be played if you have 1Mb or that

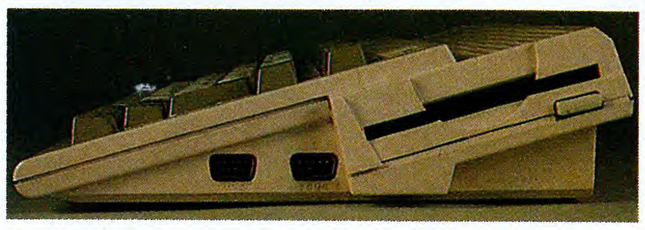
Setting up

What c

Here's everything



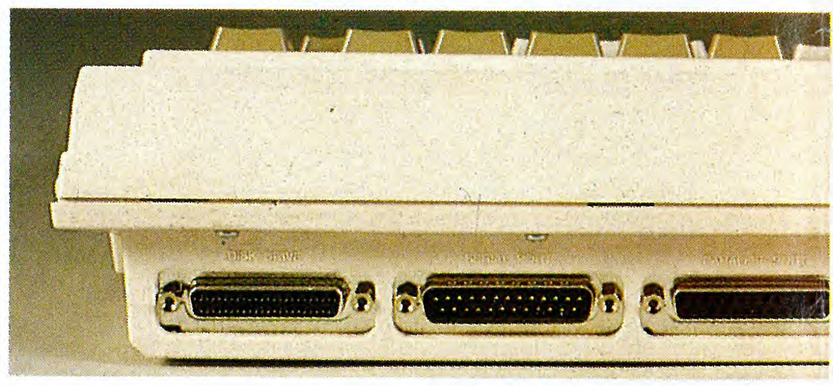
PCMCIA 'CREDIT CARD' CONNECTOR
On the left-hand side of the Amiga, if you're sitting at the keyboard. Over the next couple of years, this slot will become increasingly important. Simply by slotting them in, you'll be able to fit memory expansions, hard drives and much more to this slot.



JOYSTICK PORTS
On the right-hand side. Here you plug in your joysticks or your mouse. In one-player games, the joystick will usually need to be in Port 1. If you're using the mouse, you have to plug it into Port 2.

SERIAL PORT
A standard computer interface, this is an RS-232 connector and is used to plug your Amiga in to add-ons such as printers and modems.

PARALLEL PORT
Another standard computer interface, this is a Centronics connector. It is used to connect sound samplers, video digitisers and some types of printer.

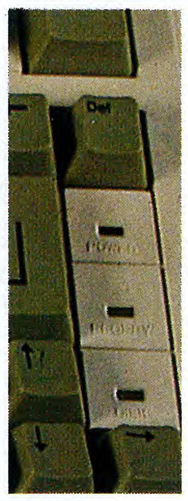


DISK DRIVE PORT
This is a special Amiga standard plug which can only be used for attaching a second disk drive. A second disk drive is probably one of the first extras you'll want to buy for your Amiga.

AUDIO CONNECTORS
These take the sound out from the Amiga, one for each stereo channel, left and right. They're just like ordinary hi-fi plugs, so if you want to you can buy a lead and plug the Amiga in to your hi-fi!

your system

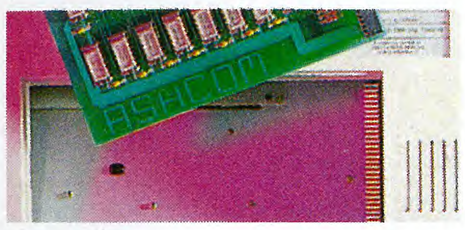
o you plug in where, and what does what?
you need to know about the Amiga 600...



POWER LIGHT
Shows when your machine is switched on. It can be controlled by software, so don't be surprised if it flashes!

DISK DRIVE LIGHT
Shows when the disk is being accessed (having something read from it or written to it). Never, ever remove a disk when this light is on. Some games leave the light on all the time, so listen to see if the drive is going round before you take the disk out.

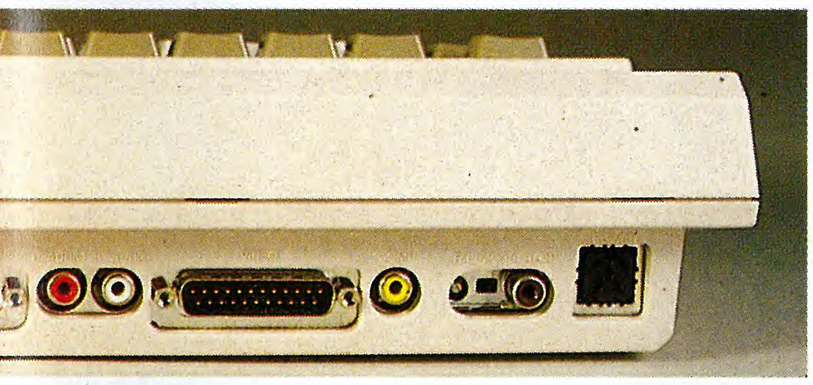
HARD DRIVE LIGHT
If you have an A600HD with a hard drive, this light flashes whenever the Amiga is reading data from or writing to the hard drive



'TRAPDOOR' SLOT
Flip off the plastic cover and the hole inside is revealed. In this space you can slot in a RAM expansion board of either 0.5Mb or 1Mb capacity.

RGB VIDEO CONNECTOR
An RGB video signal is the best quality. If you have a monitor or a telly with a SCART connector (also called a Peritel or Euroconnector) get a lead to go from this plug to your TV/monitor.

RF MODULATOR CONNECTOR
The RGB signal is converted to the RF signal a telly uses and pushed out of here. Use the supplied lead to connect between this plug and the aerial plug of your TV and you're up and running.



COMPOSITE VIDEO OUT
This is a special extra TV connector which gives a type of video signal known as a composite colour signal. It's not meant to be used as an alternative to the RF modulated output, though, so just ignore it.

POWER SOCKET
The plug from your power supply goes in here. The Amiga 600 power supply is a separate 'brick', a bit like a Scalextric transformer, so you can put it on the floor. The main power on/off switch is on the power supply.

TEN THINGS YOU HAVE TO KNOW ABOUT YOUR AMIGA...

1 **Never unplug or plug in anything, not even a joystick, without switching the machine off first. There's a danger that static electricity can jump from your fingers and it could blow a chip.**

2 **Always make a copy (known as a 'back-up') of any disk that you can: put the original away and use the copy. This also applies to the Workbench disk. See Pages 44-47 for details of how to copy a disk. Remember that most games will be protected against copying.**

3 **If you have a game that you can't make a back-up copy of and it stops working, send the disk back to the manufacturers but keep the box and the manual. Don't try to do anything to make the disk work again. The firm will be happy to replace it.**

4 **Always write-protect a disk when you're using it, unless you have to save something to it. Move the plastic tab in the corner of the disk so that a hole is showing. When you are using a program like *Deluxe Paint,* save your pictures to a blank disk and not your *Deluxe Paint* disk.**

5 **Some games will not work if you have any extra hardware plugged in. So if a new program doesn't work, rather than thinking it's a duff disk, try unplugging printers, second drives etc.**

6 **Watch out for viruses! These need cause you no worry if you follow two simple rules. If a disk is self-booting, like a game, simply switch off the Amiga for a couple of minutes before and after you use it. This will prevent a virus from staying in the Amiga's memory. If you have non-booting disks (ones that need the Workbench disk) get into the habit of using a virus-checking program. Good virus-checking programs are available in the Public Domain.**

7 **Don't ever switch off your Amiga, reset it or flip a disk out while the disk drive light is on. You'll certainly damage the data and you could damage the disk drive.**

8 **Fill in your warranty card and send it off. This will guarantee repairs for a year if anything goes wrong, plus other benefits. Don't take your Amiga apart: there's nothing you can repair and you'll invalidate your warranty. If something does go wrong, talk to the dealer who sold you the machine.**

9 **Never leave disks too near anything magnetic, including TVs and loudspeakers. A magnet will wipe data off the disk.**

10 **Make sure to read *Amiga Format* every month! If you don't, you'll miss out on all the latest news and lots of useful info.**

have lots of extra sounds or pictures on an expanded Amiga.

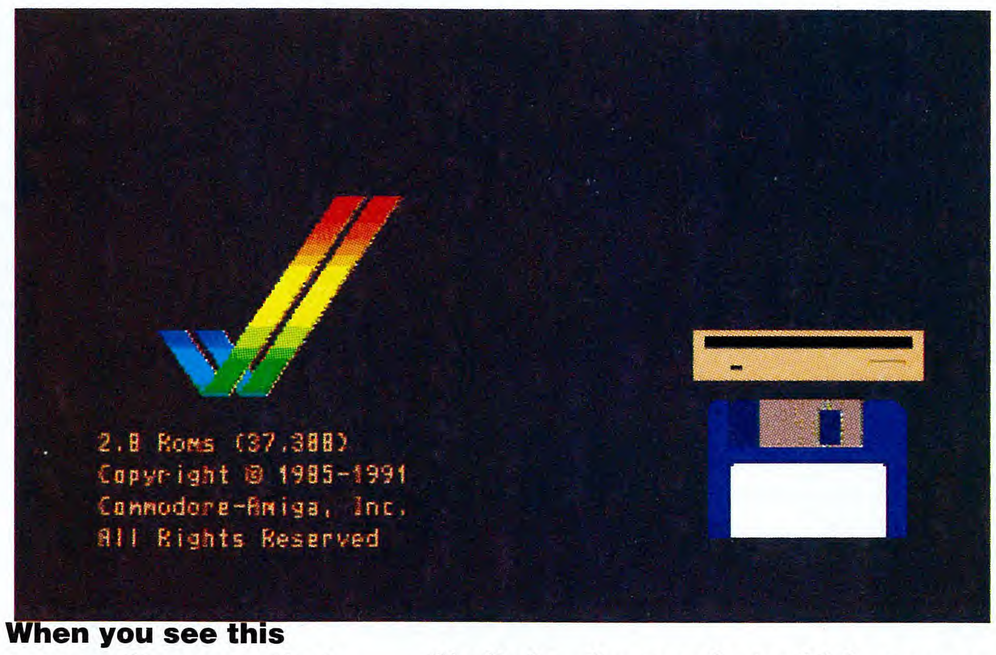
You won't ever need more than 1Mb for games, but if you get into graphics, particularly animation, you may well need to buy more memory to let you create more ambitious stuff.

7. The CPU

OK, so we've got a program into RAM. What happens now is the CPU (central processing unit) goes to work. The CPU is the main chip in the Amiga, the Motorola 68000 16-bit processor. So how does it work?

Well, think of the Amiga as a car factory. The memory is the storage yard where raw materials like steel come in and are kept until needed, and the CPU is the factory workshop where the steel is made into cars.

The speed at which a car factory turns out cars depends on two things: how many you can build at one time, and how quickly you can build them.



When you see this screen, it means that the Amiga is ready and waiting for you to put a disk in the drive.

Similarly, the speed at which a computer runs depends on how much data the CPU can deal with at one time and how fast it deals with the data. The Amiga's 16-bit CPU in effect means it can build 16 cars at a time: this is twice as many as the older (now defunct) 8-bit machines. It has a clock speed of 7.14 MegaHertz, which governs how fast it can build cars.

Phew! Sorry about the dumb car factory analogy: but after all this you should have some idea what it means when people say the Amiga is a 16-bit computer with a Megabyte of RAM.

8. Programs

The CPU has a set of instructions built into it when it is designed which control everything the computer does: all a program has to do is to tell it which instruction to carry out when. So a program is simply a list of orders which the CPU has to do.

Remember, a computer doesn't really do anything more than you are aware of. The instructions which the CPU carries out are mainly what to draw on the screen and what to put out through the sound channels. The only other thing it does is store new data back in memory or onto disk, like the current score in a game or your picture in *Deluxe Paint*. That's really all there is to it.

9. How a program works

What a game mostly does is read inputs and create outputs, and the speed at which it runs is generally governed by the speed of the screen, which displays a new picture every 1/25th of a second. Which means the program has to get all this done in less than that time.

First, it might check the joystick for movement. Then it moves the sprite accordingly, updating the co-ordinates of the sprite in RAM. Then it checks those numbers against enemies' positions, to see if you've hit anything. Then it will display on the screen the movement you just made. It's a simple enough little cycle.

10. Custom chips

The reason the Amiga is such a great computer is because it has the custom chips we mentioned earlier. There are three of these, and each one has a name: Paula, Agnus and Denise.

The three custom chips are allowed to do something called Direct Memory Access, or DMA. This means that each one of them can nick some data out of RAM and do things with it without asking the CPU for permission. It also means, of course, that each has its own limited set of instructions, so a program can tell it what to do.

Agnus and Denise do mainly graphics work. Agnus is a big chip that also has two other bits in it: the Blitter, which makes putting a spaceship over a background, for example, much easier; and the Copper, which keeps a split-second track on scan-lines.

What's a scan-line? Well, the TV or monitor draws a picture on the screen starting from top left and scanning down line by line until it reaches bottom right. The Copper can suddenly interrupt the picture half-way down and draw something else, which is why when using Workbench you could open up *Deluxe Paint* and then pull the screen down so you can see Workbench again.

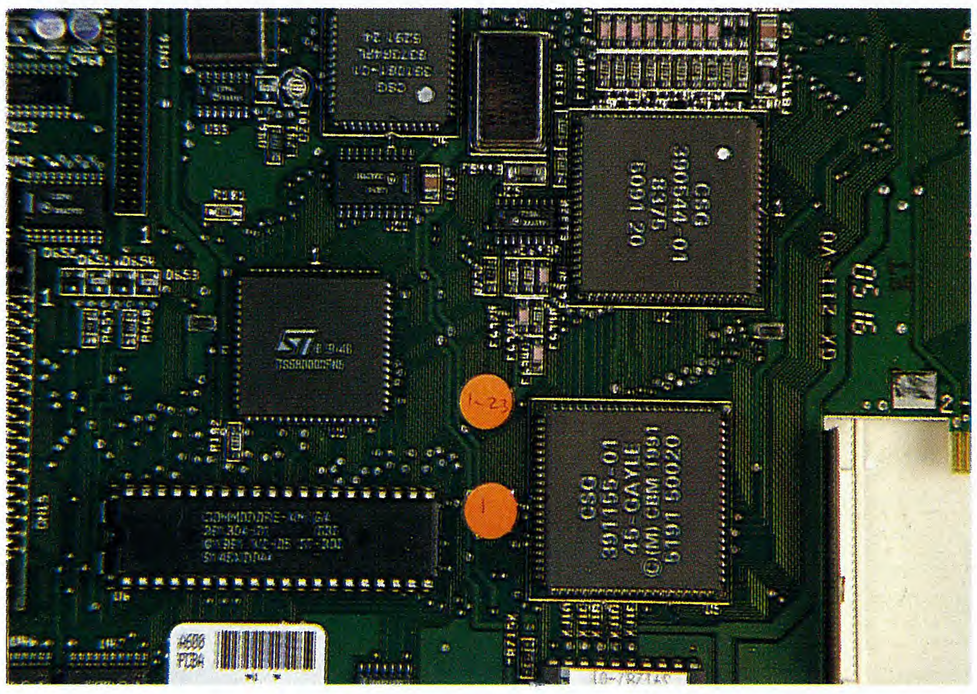
The Copper also makes those lovely ranges of colour that you see in the sky on games.

Paula is the sound chip. The Amiga can produce a full nine octaves of notes in stereo, which is why game music is so good on the Amiga.

It's because the custom chips are there that the Amiga can do what no other home computer can: multi-tasking. This means you can run more than one program at the same time, and it shows how unique the Amiga is.

Well, after all that you should have a good idea of how the Amiga works. Now all you have to do is read on and find out about the exciting things it can do! We've just got space to wish you the best of luck. Enjoy the rest of this special edition, have fun with your new machine… and read ***Amiga Format*** every month! AF

INSIDE THE AMIGA 600



If you were to unscrew the case, you can unplug the keyboard and the disk drive… and this is what you would see.

RAM CHIPS
Four main memory chips make up 1Mb.

TRAPDOOR SLOT
If you attach a RAM expansion inside your Amiga, this is where it plugs in.

GAYLE
The chip that looks after 'interfaces' such as the PCMCIA 'credit card' connector.

KICKSTART 2.05
The chip that starts the Amiga going and contains the basics of the operating system.

MOTOROLA 68000
The main CPU chip, the one that does most of the processing work.

PAULA
The first of the four custom chips, this is the one that gives the Amiga its amazing sound capabilities.

FAT AGNUS
Probably the most important custom chip of the lot, this is the one that looks after most of the Amiga's amazing graphics.

DENISE
This chip is one of Agnus's co-conspirators on the graphics. It, too, can access RAM direct without using the CPU.

IDE CONNECTOR
If you have an A600HD, this is where the tiny internal hard drive plugs in. It's a standard connector type.

TV MODULATOR
This little box converts the Amiga's video signal into an RF signal that can be used by your television.

CD and the Future of the Amiga

Within two years, the compact disc will change the way we think of computer games. This time next year, you could be playing games loaded from CD rather than from floppy disk.

The Amiga has led the way with CD technology, first with the release of the Amiga CDTV and then with the A570 CD-ROM interface that lets A500 owners play games from CD. Very soon, the A670 CD interface will be available, so that your Amiga 600 can play CD games, too.

Games on CD are an inevitable next step for mainly economic reasons. For the publishers who produce the games, CDs are better than floppies because they are proof against piracy.

They are also considerably cheaper and easier to produce than any other medium.

But there's good news for us, too. CDs will be much less vulnerable to accidental damage than floppy disks. And games companies are committed to bringing the price of top new releases down to a price of £20 rather than the current £30-£35.

Better still, CDs have a storage capacity that's equivalent to more than 600 floppy disks, so enormous and amazing games will come out in the future.

It's taking a while for this new kind if game to be developed, because there's a lot of work in creating a game that fills hundreds of floppies. But the results will start appearing soon, and are almost guaranteed to be amazing.

Remember, as an Amiga owner you are now in a privileged position. We're the first to be able to take advantage of CD technology. Which means that in two years' time, when there is no alternative to CD, we'll be laughing – as well as being way advanced on the pack.

Here's to the future – and we'll see you there!



This is the CDTV. It might not look like it, but it's actually an Amiga: and it is bringing the future of computing to us lucky Amiga owners.



This is the A570 CD-ROM drive which lets Amiga 500 owners run games from compact disc. You can now get a similar gadget, called the A670, for your A600, putting you right at the leading edge of technology!

Tonight you could become a Railroad Tycoon, shape a Civilization or indulge in a little Piracy in the Caribbean



Alternatively, you could grab an early night

With such voyages of fantasy at your fingertips, there's no reason to have a 'quiet night in' ever again. Devised by the guru of games design, Sid Meier, each adventure involves strategic role playing to stretch your imagination and sharpen your wits.

So you could be playing with the train set you always wanted, surviving and thriving in the company of Genghis Khan or navigating a galleon around the Spanish main.

Are you really prepared to settle for anything less?

MICRO PROSE™
SIMULATION • SOFTWARE

Seriously Fun Software

Railroad Tycoon, Civilization, Pirates! - all Classic games from Europe's Number One Software Publisher

MicroProse Ltd. Unit 1 Hampton Road Industrial Estate, Tetbury, Glos. GL8 8LD. UK.

You've got this...



your new A600. But to get the most from this powerful and versatile computer you need some advice from the experts

HERE'S WHAT YOU GET:

- How to set up your A600
- How an Amiga computer works
- The entire range of Amigas explained in full
- Getting to grips with Workbench
- We reveal all the games you have to have
- How to get started in graphics, music, desktop publishing, video, business and more
- What to look for when buying monitors, printers, scanners

...now get this

AMIGA FORMAT SPECIAL

The Complete Beginners' Guide



featuring a wealth of clearly explained tips and tutorials to help you get off to a flying start with your new Amiga

modems; all manner of useful peripherals, plus advice on how to set them up and use them

- How to get free software
- Essential programming tips for beginners

...everything you need to know when starting out in the exciting world of Amiga computing. In all, it's...

ESSENTIAL EXPERT ADVICE

On sale 24 December
Only £3.95

You're travelling at 180 miles an hour. Ahead of you is Ayrton Senna. If you can just keep slip-streaming behind him for a second longer, you'll be able to dodge past, out-brake him into the corner and get your foot down for the next straight, leaving him eating the scorched tarmac.



And in the distance, in the number one position, you can clearly see the back of Mansell's blue, yellow and white car. There are three laps left; you're going to catch him.

But it's going to be close.

Suddenly the missile launch warning goes off. Two Harriers have crept behind you while you were day-dreaming. You hit full reheat, drop some chaff and jink hard to the left. They follow, closing all the time. You chop the throttles, level the wings and pull back hard. Your vision greys out. A stall warning goes off. The speed drops critically. Get the nose down, the power back on and there they are.

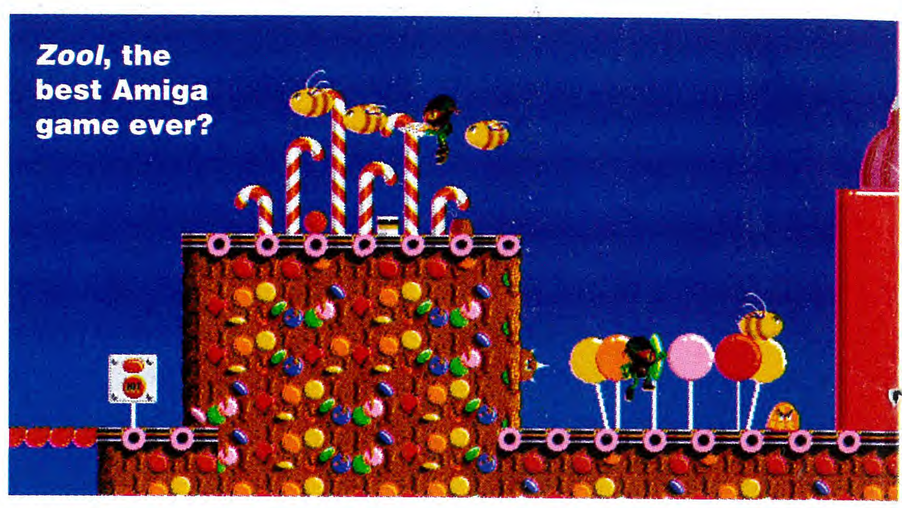


Now you get a missile lock. Hit the button and an AA8 flies off the rail. Seconds later you flash past the burning, tumbling wreckage. One down, one to go. But where on Earth is he?

Behind you, a team of Orcs attack. Your party turns and, just in time, you free your axes, swords and bows. Cuts and swipes rain down on the fearless Orcs. One dies instantly at your feet. Another takes his place. You're taking damage. Time to use the wizard. A lightning bolt flashes from his outstretched palm. The Orcs are melted, fused into a revolting mass. But further down the dark passage you can hear more approaching. And something very big is coming with them. Time to run.



It's been said that when you're bored of Amiga games, you're bored of life. There are so many that you can always find something to play. But pause for a second and admire the quality of some of them. Your Amiga is the best home computer there is. Custom hardware, massive internal memory and positively insane speed makes it the king of electronic gaming machines.



95% ZOOL

GREMLIN GRAPHICS £25.99

Zool is the platform game to end all platform games. You play the eponymous little alien in seven worlds packed full of cute graphics, bright colours, amusing visual puns and almost certain, repeated death. *Zool* is tough. It starts gently, then gets mean. But boy is it ever playable. You won't stop because you can't stop. As well as the extensive, beautifully drawn platformy bits, there are a multitude of sub-games. The scrolling is smooth, the control is perfect and the speed is seriously impressive. Oh, and it's big. Well, not just big, actually; it's massively humungous, to use the vernacular.

The An

Top 30 G

Every month, **Amiga Format** sets its
of sorting the good games from the ba
precise objective judgement. It is not e
over the years all these games have m

95% THE SECRET OF MO

LUCASARTS/US GOLD £37.99

This is your opportunity to control a character in a full-blown cartoon adventure. By using the mouse to click on the screen wherever you want to go, you must guide Guybrush Threepwood (our hero and now a cult figure) through a massive, gorgeously drawn land of pirates, parrots and carrots.





95% PUTTY

SYSTEM 3 £25.99

Putty is the story of a small, blue, amorphous blob who must help some aliens build a tower from their planet to Putty Moon so that they can vanquish the evil wizard Dazzledaze and his orange cat Dweezil. The dastardly duo have frozen the aliens in blocks of ice, so you must travel around the six different areas of their world and free them from their captivity. They have also captured lots of babies from Earth and turned them into nasties which patrol the levels. Superb graphics and sound effects, and incredibly imaginative characters make this an absolute joy to the senses.

niga
ames

experienced games reviewers the task
d. The job is a tough one and calls for
asy to impress **Amiga Format**, but
ade the grade...

NKEY ISLAND 2

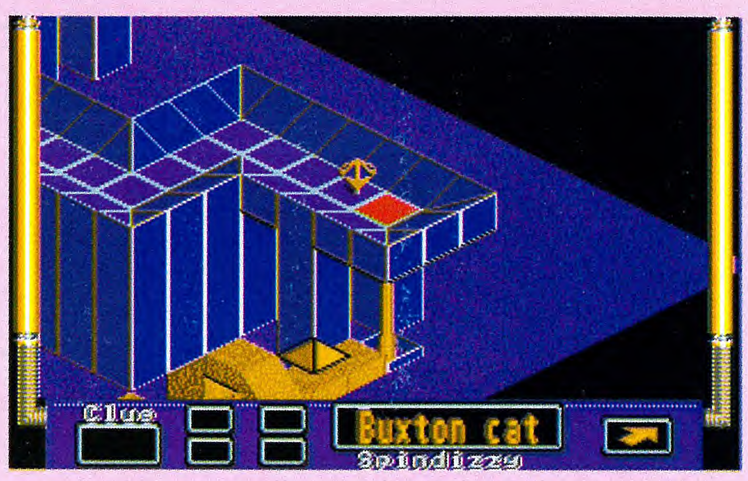
And not only does it look wonderful, it's also great fun to play. The Americans seem to have cottoned on to British invention, humour and irony. *Monkey Island 2* is a very funny game. It's huge, it's packed with puzzles and tricks and it actually sets up a world you won't want to leave.



94% SPINDIZZY WORLDS

ACTIVISION £24.99

The idea is simple – you control a sort of spinning top. It must be delicately nudged over a series of obstacles as you try to keep it on a path. It's maddening, but the sort of maddening that you know you can come to terms with. The trouble starts when you think you've got the game sussed. Controlling GERALD, the top, on the paths gets easier as you get used to it, but there comes a point at which you meet lifts, jumps, chutes and other nasty items. You need to think fast and you need to be a dab hand with the joystick if you're going to beat *Spindizzy Worlds*.



***Spindizzy Worlds* – simple, maddening, moderately silly, but utterly addictive.**

95% RAINBOW ISLANDS

HIT SQUAD £7.99

Now out on Ocean's budget label, *Rainbow Islands* has been described as 'the most accurate arcade conversion ever'. You play Bub and/or Bob, two frighteningly cute characters who must fire rainbows at equally cute nasties in order to weave their multi-coloured way across a series of platforms. It's a marvellously playable game, as huge as two really large things knocked through into one, and you can even dictate which bonuses and secret rooms you find next. There is such an incredibly wide variety of creatures, collectible objects and secret screens, that you'll never get to see the lot.

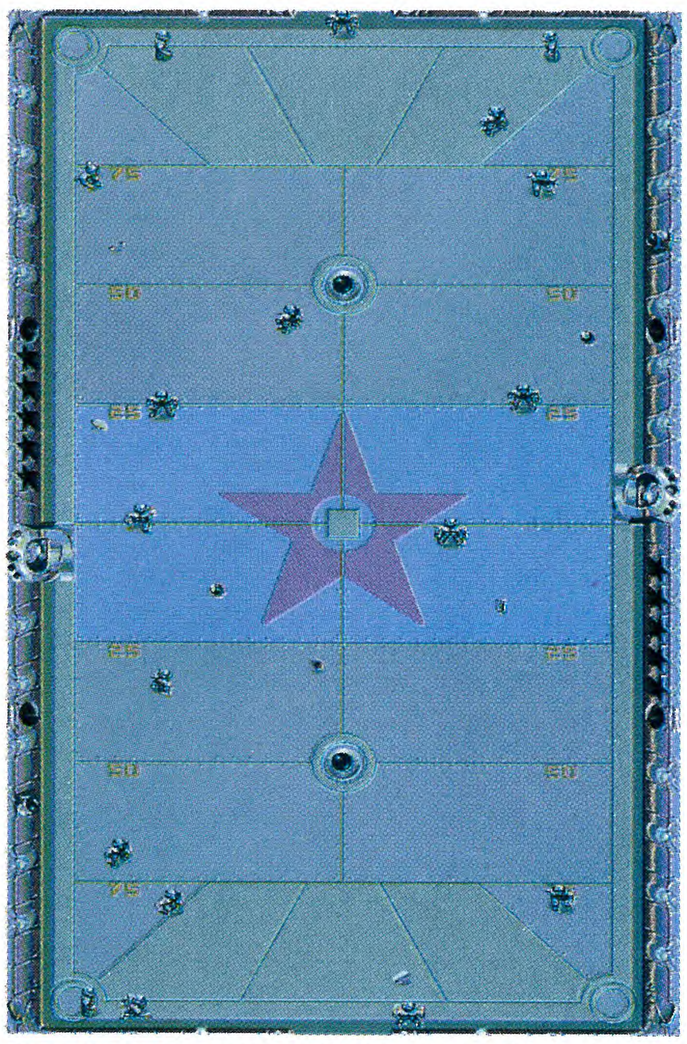


Well cute and packed with platform thrills, *Rainbow Islands* is, as it were, a corker.

94% SPEEDBALL 2

IMAGEWORKS £24.99

Imagine a game with the tactics of American football, the speed of ice hockey and the violence of rugby league. Now set the whole thing in a *Rollerball*-style future, and you've got *Speedball 2*. It's a fast, furious, crippling game in which you must score points on a steel basketball-type of court while maiming a significant percentage of your opponents. It's absolutely addictive when you're playing another human, and still a lot of fun when you're breaking the computer player's heads. There's a nifty transfer market, a hellishly frustrating limited save-game option and an entire league of teams to decimate. Serious sport-related face-punching fun.



The virtual on-pitch violence in *Speedball 2* makes Aussie-rules football look woosey.

95% POPULOUS 2

ELECTRONIC ARTS £29.99

The first of those much-vaunted 'god games'. *Populous 2* boasts 1,000 levels, each one of which is a world in its own right. You control the weather, the terrain and the religion of a tribe that's struggling to overcome its adversaries and take overall control of each world. Brilliant detail, absorbing gameplay and a strong tactical element all combine with the lovely, warm feeling of omnipotence to form a game which goes straight to your ego. It's fun, it's intelligent, it's huge and it's all yours. *Populous 2* has that biblical feel of a DeMille epic.



Lo! And He looked upon the face of the deep and saw that it was blue. But raising land is easy in god game *Populous 2*.



A budget bargain, *Kick Off 2* brings brilliant, ball-bashing action to the small screen.

94% KICK OFF 2

ANCO £7.99

Sensible Soccer may well be taking all the plaudits at the moment, but *Kick Off* (and *Player Manager* and *Kick Off 2*) will still take some beating before hundreds of thousands of Amiga footy-addicts forget it. You have everything a game (computer and real) shouldn't have, from bugs to crashes, awful refereeing decisions to penalty shoot-outs. But teams of grown-up journalists have descended into cheap terrace singing while cramped in small offices during KO tournaments because of the game's amazing playability. *Kick Off 2* really is a must buy on any machine, but it is generally (and grudgingly) accepted by game authors as being at its absolute best on the Amiga.

94% CIVILIZATION

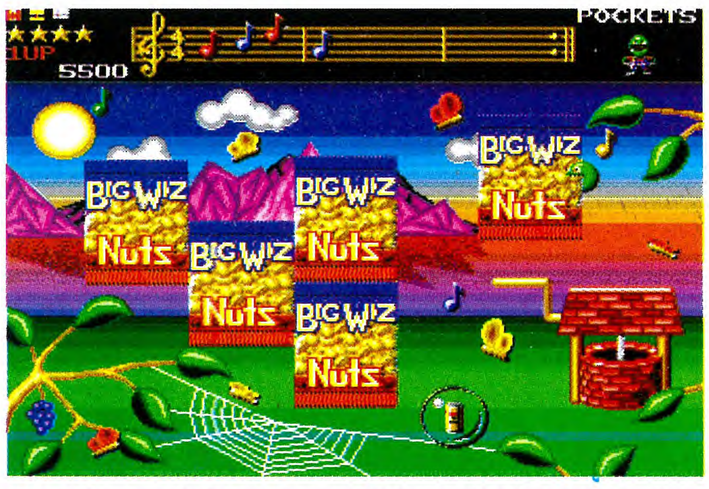
MICROPROSE £34.99

This one can really be called a masterpiece. It's a god game, sort of, in which you, er, build up a civilisation. You watch and tamper as your race of people evolves into either a benign group of flower-power types, a warlike race of self-destruction freaks, or something in between. Once again, it's pretty massive, and the complexities force a decent manual-reading session. But it's worth it. *Civilization* will immerse you for days. Even when you're not playing it, you're going to be thinking about it. Almost as fascinating as real life.

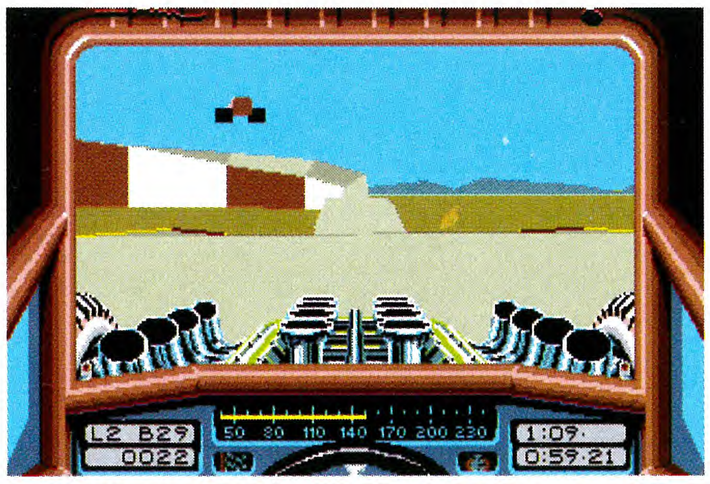
93% WIZKID

OCEAN £25.99

Wizkid is a surreal puzzle game with a strong arcade, even adventure, feel to it. You rush around, bashing your head against movable objects and busting blocks left, right and centre. You gasp as strange in-jokes reveal themselves. You frown as incredibly weird Dada-ist things happen. You wonder where it will all end, but *Wizkid* is a large game and, once you're in, you're hooked. It's actually the sequel to *Wizball,* and retains a lot of the elements and style of the former. It's much better, though, with great graphics, wonderful sound and a overflowing plateful of playability.



Utterly weird and wobbly, Wizkid is something for your mind, your body and your soul.



The sick sensation of being on a roller-coaster features in *Stunt Car Racer*.

93% STUNT CAR RACER

KIXX £7.99

You race another car around some crazy jumps, bends and hills, all the time fighting to keep the speed up and stay on the track. It's exhilarating in the extreme, if not as sophisticated as *F1GP*. One of the major attractions is that you can connect up two Amigas with a null modem cable and race another human opponent in real time. The graphics are stylish, but deliberately simple to enhance the speed and playability. This is one fast, smooth game and you'll be holding your breath as your cars flies high into the air after taking a jump a little too quickly. A must for driving-sim fans.

92% SIM CITY

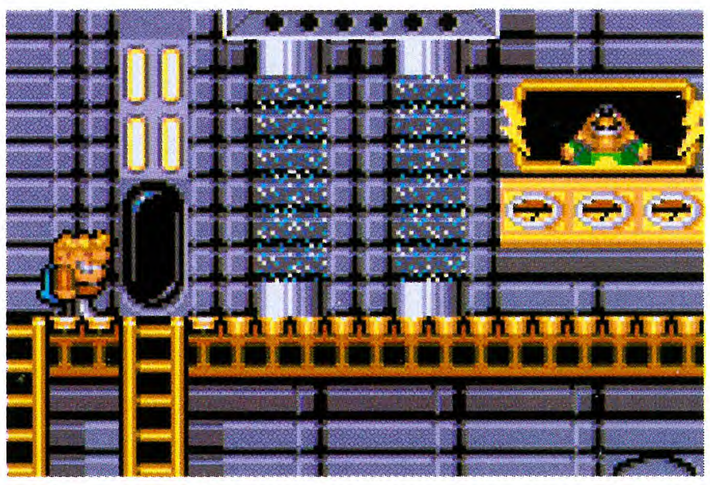
MAXIS/INFOGRAMES £25.99

A departure from the usual god game, this. You're not actually fighting anyone. Instead, you get to build a seething metropolis from scratch. Using individual building blocks, such as roads, housing, electricity pylons and all manner of buildings, you must create the perfect city, which should attract growth and become a success. Do you go for a Milton Keynes-style car-park? Or an American grid layout? Lots of parks? Massive industry? Out-of-town commercial centres or charming, crime-ridden ghettos? You decide. And if your city is prosperous and expanding, why not arrange an earthquake or a fire. Or summon Godzilla to kick it about? Great game.

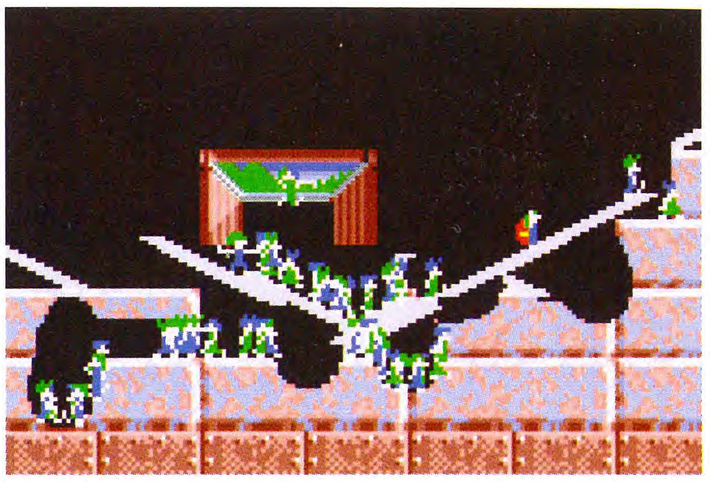
92% RICK DANGEROUS 2

MICROPROSE £25.99

Rick D is a hat-wearing adventurer who finds himself in a massive five-level nightmare. It's a platform game of the traditional kind. This means it's both tough, good to look at and very insidious. You just will not put that joystick down afterwards. There's a neat option whereby you can choose the order in which to do the five levels, so if you really get stuck you can try a totally different scenario. Either way, practice, skill and reflexes that would make a cat look tranquillised are what's called for. *Rick Dangerous 2* has got a great deal going for it.



Make your cat envious as your reflexes go hyperspeed with *Rick Dangerous 2*.



Lemming (*n*) – rodent indigenous to platforms and totally inept without your help.

92% LEMMINGS

PSYGNOSIS £24.99

The idea is simple. You must guide a load of lemmings to safety across ravines, through tunnels and up ladders. All these you must set up yourself, with the aid of specialised lemmings who are capable of bridge-building, tunnelling and so on. It's like plate-spinning, in that all the other lemmings are busy wandering around looking for stupid ways to die, so you must keep darting back and forth to make sure they're all okay. Totally original, totally marvellous and now actually something of a cult game, You can have over 200 scenarios, which is more than sanity can bear. The data disks are £19.99.

92% RAILROAD TYCOON

MICROPROSE £34.99

Written by Sid Meier, the same chap who did *Civilization*, *Railroad Tycoon* gives you either the USA, Europe or England, all devoid of trains. You must build up a rail network, buy rolling stock, connect vital towns and industries and ensure that you don't get disgruntled passengers. If you manage it, BR wants a word... You're competing against other railroad magnates, so get building those viaducts and blasting those tunnels. The detail is immense in – you control your transport empire right down to individual carriages. Once you've got the hang of it, you'll find yourself with the most absorbing train set.

92% FORMULA ONE GRAND PRIX

MICROPROSE £34.99

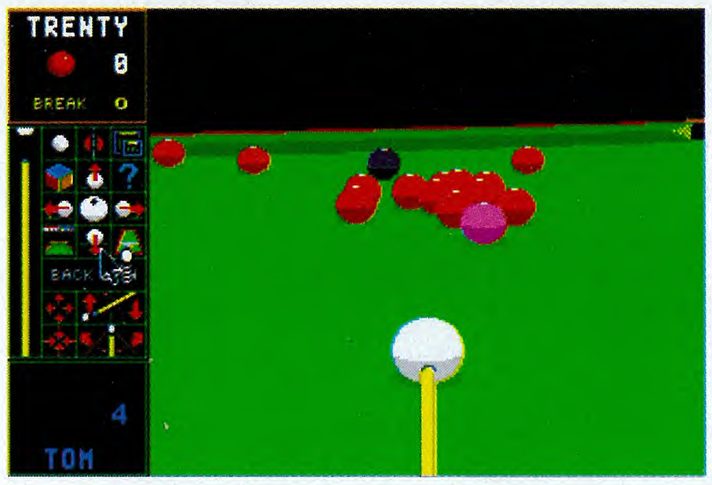
This is an astonishingly accurate 3D polygon game which provides all the excitement, speed and competition of wheel-to-wheel racing at 200 mph. All the world's major circuits are here. There are more than 30 cars, each painted in 'real' Formula One colours, and you can input the real drivers' names, alter your car's set-up, choose the tyres, pit-stop and crash with total authenticity. You can even watch it all from a multitude of replay angles. *F1GP* is fast, crisp, staggeringly smooth and you can race up to 25 other human drivers in it.



Formula One motor racing, the world's most expensive sport, for £34.99. Nifty huh?



The game that spawned a thousand nights of lost sleep, EOB2 is un-power-downable.



More than just heaps of machine code, *Whirlwind Snooker* plays a great game.



What happened to subsequent Samurai is unclear,. but the first one is enough of a gas.

92% EYE OF THE BEHOLDER 2

SSI/US GOLD £35.99

A fabulous dungeon adventure in which you wander around a series of levels, travelling in one of the four compass directions. Ahead of you, the tunnels and corridors fade to darkness. And anything could be there. You have to be quick, because all the monster encounters occur with no warning (unless you are lucky and see the foul and fiendish foe approaching). You fight with traditional fantasy weapons, swords, bows and magic, and as you kill the baddies and solve the riddles, you descend deeper into the dungeons until eventually you meet the Beholder itself. The atmosphere in this game is truly menacing. The graphics are superb and there is so much of the blasted place to explore. If you want a frightening, tough adventure, this is the dungeon to go for.

91% SENSIBLE SOCCER

OCEAN £25.99

You view the action from above while your men rush around trying to get possession of the ball. Meantime, you control the one nearest the ball. If you're skilled, you'll be trying to get possession as well. It's fast and it's action-packed. The secret of *Sensible Soccer* is the ball control. If you're sharp and accurate with your joystick, you'll have an advantage, especially during a two-player game (as always, the most fun). The teams are accurate (or were when the game was written) and there's a terrific number of options to fiddle around with when you're not actually tussling to and fro on the pitch. *Sensible Soccer* is one great sports sim.

91% MEGA-LO-MANIA

IMAGE WORKS £25.99

You control a tribe of cave-people which inhabits a series of islands. You share the islands with hostile tribes with which you either make pacts or fight. The idea is to race forwards technologically until you invent slings, swords, bows, aircraft and even nuclear weapons. You face decisions at every turn on whether you should be building more weapons, researching better weapons or recruiting armies. The game features computer-controlled characters who interact both with you and with each other. Sampled speech from actors is heard, both from the opponents and from your guys when they report to you. It's a very stylish game with neat graphics and a lot of fun gameplay.

91% JIMMY WHITE'S WHIRLWIND SNOOKER

VIRGIN £29.99

Jimmy White's Whirlwind Snooker brilliantly simulates the game we know and love. Programmed by the somewhat famous Archer Maclean (who has also released *Pool*), everything you find on a real table is here. The physics of the balls would impress Stephen Hawking, and the playability would impress even the most hardened games freak. The 3D views are so fast and smooth, you'll wonder how it's all done. But although the maths is complex, the game is easy to get into; it's just hard to get very good at. A classy job, and it even gets silly in places too.

91% VROOM

MILLENNIUM £24.99

While not the be all and end all when it comes to realistic racing (take a look at *F1GP* for that) this high-revving romp around the world's Grand Prix tracks certainly scores in the speed stakes. With great sound and easy-to-handle controls, it's an action-packed and frighteningly swift game that's bound to appeal to those who prefer thrills to scratching their chins and wondering whether they should use B-grade rubber on the left or the right wheels. Much fun to be had, even if it's just snickering at the game's name.

91% JAMES POND2: ROBOCOD

MILLENNIUM £24.99

This is a massively playable platform game. Like *Zool*, it has a console feel to it. There are dozens of hidden rooms, heaps of stuff to collect and oodles of lives to waste doing it. The game doesn't actively try to kill your cod-ish character; you'll make enough mistakes to do that quite efficiently yourself. Great graphics and a brilliant soundtrack combine to make *Robocod* a worthy game for anyone's collection. It's cute, it's fun and it's perfect for those moments when you need to be amused and engrossed by a game while having your speed of reaction stretched to breaking point.

91% FIRST SAMURAI

IMAGE WORKS £25.99

You wander through an enchanted, futuristic Japan, killing folk with a sword. There are serious numbers of large and beautifully drawn things to swipe at and the background graphics are pretty heavenly too. Off you go through six levels, trying to find the exit and wasting everything you come across, from rats to alien face-huggers. It's totally wild. The sound effects are nothing short of masterful and, as you go along, they fill your ears in a most satisfying manner. But if you lose your sword, you've got to fight on with just your hands and feet – a mite tricky as any Samurai will tell you. It's a very tough and uncompromising game, is *First Samurai*, so be prepared for immense frustration for quite a while.

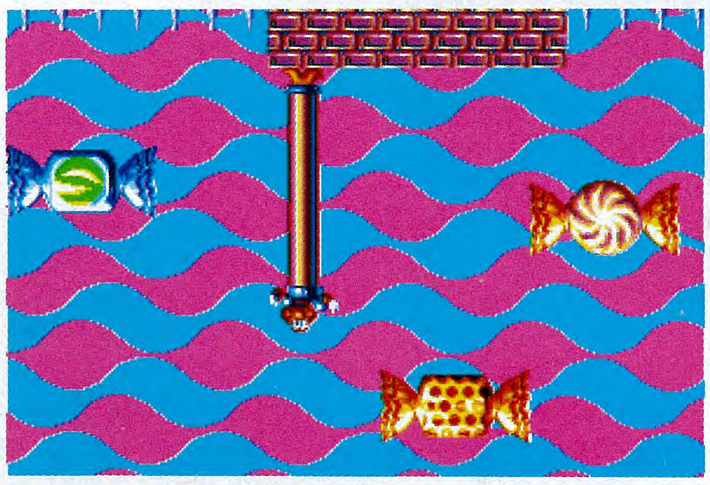
90% PGA TOUR GOLF

ELECTRONIC ARTS £34.99

PGA Tour is to golf what *Jimmy White's Whirlwind Snooker* is to snooker – a computer game, but of immensely good quality. Select your clubs, take into account hook or slice, watch the wind direction and, when you're settled, drive for the nicely drawn green. Once again, the Amiga shows what it can do with graphics. The game is fast, accurate and pleasant to look at. With practice, you can really get good at *PGA*. But will you be able to beat your friends? Invite them round and have a go. It's better than paying a huge amount to walk round in the cold rain, pretending you're getting exercise, or even visiting the local golf course.



Let those power-mad fantasies go as you play god in *Mega-lo-Mania*.



Frenzied fishy fun with the world's best-loved undercover cod *James Pond*.



***PGA Tour*: play great golf without running the gauntlet of a club selection committee.**

90% MiG-29M SUPER FULCRUM

DOMARK £39.99

The great strength of *MiG-29* is its air-to-air combat. Forget infallible missiles; you've got a serious flying machine here. Playing the computer leaves you breathless after a protracted duel, and, like *Stunt Car Racer*, you can link up two Amigas and go head-to-head. There are all the added bits you could want, such as ground bases to hit and plenty of runways to land on, plus you get to shoot at state-of-the-art Western planes as well. And since the Cold War ended, you can stop feeling guilty about screaming "die, capitalist pigs!" every time you get brought down.



Take to the air and vanquish western fighter planes in this high-tech sim.

91% F-19 STEALTH FIGHTER

MICROPROSE £29.99

This brilliant sim lets you fly missions over the Gulf, Libya, the North Cape and Central Europe. You've got the best plane, but you're going to be on your own. Flying the F-19 is pretty easy. There are loads of planes, tons of ground targets, stacks of missiles and even carrier fleets. The graphics are colourful and fast, and the game is very, very competent and slick. You get to save your progress as an individual pilot, so the better you get, the more medals and promotions are chucked your way. It's a tense, enjoyable sim with combat that verges on arcade game quality.

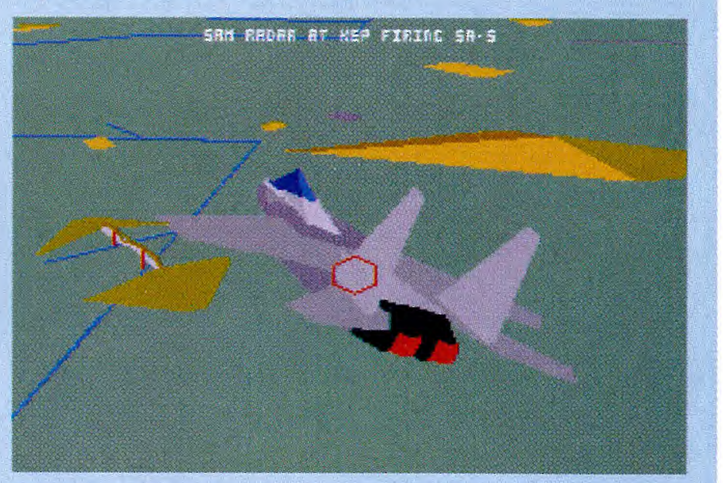


Take to the air and hide from all manner of fighter planes in this ultra-high-tech sim.

90% F-15 STRIKE EAGLE

MICROPROSE £34.99

There is no keyboard-fumbling to hit the correct series of switches to release a missile or bomb; here you just fly along, following an arrow telling the direction in which to go, before meeting some baddies and having one hell of a dogfight. It's fast, it's very attractive to look at and it comes from a coin-op. *F-15* is for those who really enjoy mixing it with the baddies rather than toasting them from long-range. The timing of the game is such that Iraq features quite heavily. Suffice it to say that the country is not one that welcomes you with open arms into its airspace.



F-15 Strike Eagle trades realism for action – an adrenaline-pumping sim.



90% BATTLE ISLE

BLUE BYTE £25.99

Battle Isle gives you an army (and later an air-force and navy) to move around, attack and defend with. You play against the Amiga or a chum using the excellent split-screen effect. Mobilise those tanks, mount up that infantry and launch an utterly offensive offensive against the enemy base. Controlled totally with the joystick, this is wargaming for both the beginner and the enthusiast. A tense tune plays throughout as you vie for total supremacy. You actually see the combat take place, with animations peppering the game. The futuristic element gives it all an exciting atmosphere and the battles are true tests of your skill as both a general and a field commander. Exciting stuff.

90% APIDYA

PLAYBYTE £25.99

This a sideways-scrolling shoot-em-up with bugs, beetles, moths, creepies, crawlies and slimies all ganging up on your wasp to snuff it out of existence. You've got a tough battle facing you. The game is so beautiful, it resembles a lavishly tooled biology book of the sort schools can't afford any more. It's also immensely addictive. As you fly along, wiping out the bugs, you collect more and more firepower. You'll need it because there are multitudinous nasties out there waiting for you. So when the times comes to show off your Amiga, boot up *Apidya*, gross out your friends and settle down to a few hours serious gameplay.



Is it a bird, is it a plane? No, it's a death-spitting wasp from Playbyte's *Apidya*.

AMIGA FORMAT GOLDS

To attain an *Amiga Format* Gold rating, a game has to have a number of attributes: first and foremost it must have attained a score of more than 89 per cent (not an easy task). To do this is must be playable, original, graphically excellent, sound in the sound department, and appealing in the long term. What follows is a list of the very few games (of the 1,000s released in *Amiga Format*'s history) to reach the heady heights of ***Format*** Gold.

95% Zool
95% Tower of Babel
95% The Secret of Monkey Island 2
95% Rainbow Islands
95% Putty
95% Populous 2
95% Deuteros
94% Spindizzy Worlds
94% Speedball 2: Brutal Deluxe
94% Powermonger
94% New Zealand Story
94% Kick Off 2
94% John Madden's American Football
94% F-16 Combat Pilot
94% Dragons Breath
94% Civilization
93% Xenon 2
93% Wizkid
93% Stunt Car Racer
93% Striker
93% Shadowlands
93% Player Manager
93% Pacific Islands
93% Laser Squad
93% Crazy Cars
93% Conqueror
92% Zork Zero
92% Waterloo
92% The Secret of Monkey Island
92% SWIV
92% Sim City
92% Rick Dangerous II
92% Railroad Tycoon
92% Powerdrome
92% Powerdrift
92% Midwinter
92% Lure of the Temptress
92% Links
92% Lemmings
92% Kult
92% Killing Game Show
92% Indianapolis 500
92% Hero Quest
92% Formula One Grand Prix
92% F-29 Retaliator
92% Eye of the Beholder
92% Eye of the Beholder 2
92% Distant Armies
92% Damocles
91% Vroom!
91% Strider
91% Storm Master
91% Sensible Soccer
91% Robocop 3
91% Robocod
91% Mega-lo-Mania
91% Knights of the Crystallion
91% Kick Off
91% Jimmy White's Whirlwind Snooker
91% Gravity
91% Ghouls'n'Ghosts
91% First Samurai
91% F-19 Stealth Fighter
91% Eye of the Beholder 2
91% Captive
91% Austerlitz
90% Ultimate Golf
90% Thunderhawk
90% Thunderhawk
90% Their Finest Hour
90% The Infocom Collection
90% Supremacy
90% RoboSport
90% Red Lightning
90% Projectyle
90% PGA Tour Golf
90% Operation Stealth
90% MiG-29M Fulcrum
90% MicroProse Golf
90% James Pond
90% Heart of China
90% Hard Drivin' II
90% F-15 Strike Eagle
90% Cybercon III
90% Cruise for a Corpse
90% Battle Isle
90% Battle Command
90% Batman
90% Apidya

Tonight you could
prang an F-19, shatter enemies from your M1 tank
or have a smashing dogfight in your F15



Alternatively you could crash out in front of the TV

With incredible animated graphics putting you squarely in the hot seat, there's no excuse to be sluggish!

These realistic simulations give you a 3D perspective of combat in the sky from your jet fighter cockpit or on the ground from your tank turret. Each game demands that you use your finely honed skills to decide on strategy, missions and campaigns. More of a challenge than waiting for a rerun of Top Gun, really.

MICROPROSE™
SIMULATION • SOFTWARE

Seriously Fun Software

F-19 Stealth Fighter, M1 Tank Platoon, F-15 Strike Eagle II - all classic games from Europe's Number One Software Publisher

MicroProse Ltd. Unit 1 Hampton Road Industrial Estate, Tetbury, Glos. GL8 8LD. UK.

Game Busters

Every month Amiga Format prints page after page of hints, tips and cheats in our Game Busters pages to aid and abet games-players who have come unstuck. And, if all that help is not enough, we also offer cash prizes for the best tips published.

Whether you've got the Wild, Wicked and Weird or the *Epic* bundle with your sparkly new A600, you have got some great games. Whether its the frustrating, against-the-clockness of *Push Over* or the incredible cuteness and playability of *Putty*, you will spend many, many hours waggling your joystick as you attempt to beat the games. So we have got our ace-games players, and have fixed them in front of their A600s for hours on end so that they can come up with the best available tips to the games that mean most to you: *Epic*, *Putty*, *Push Over*, *Myth*, *Rome* and *Formula One Grand Prix*.

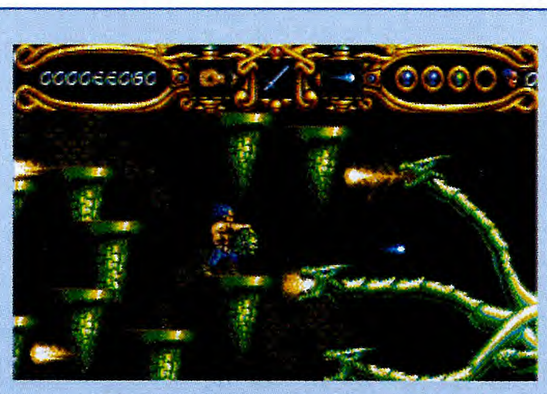
Myth

System 3's scrolling, adventure hack-em-up puts you in the enviable position of a legendarily heroic type. It will keep thrill-seekers happy. So, here are some tips for the more difficult events:

Norse Zone – Forest Section

Your battles with the trolls will be more successful if you forget the bigger weapons and go for the daggers. Trolls, as anyone will tell you, don't like it up em.

Once you've negotiated this lot, it's time to deal with Nidhog. The fainted hearted should not bother reading this bit - what you have to do is slash his throat with the magic sword and, once this has been achieved, you must throw daggers into the open wound.



You, a hero? You certainly will be if you follow these great *Myth* tips.

Norse Zone – Valhalla

Getting into Odin's castle is a task to bother even the most hardened of adventuring hero types. And although it can be done un-tipped, you have a quest to complete...

Once you've managed to kill off the two guards, you have to look to a puzzle.

The guards' skulls eye sockets are ideal resting places for your daggers. Give it a try.

Egyptian Zone

Anubis, the jackal-headed god, provides the challenge here. In order to get anywhere in the game you have to kill him (a task and a half seeing as he's immortal). If you have managed to discover the Eye of Atum, you will probably find that this comes in awfully handy for this task of deicide.

You will need to stand to the right of the Ankh symbol, select the Eye and press Fire. Edge forward until you make contact with old jackal head. Remember to recharge yourself using the Ankh.

Now you'll be wanting to get along to Tut's tomb. In order to achieve this you have to place the jars in the correct order. Keep an eye on the flame and you will see jars appearing. This signal tells you which jar to select and which one to place next.

Putty



Uncle Ted plays so well, that the nasties turn into dancing fools for at least 30 seconds.

The antics of this blue blob in trying to free the Bots from their captivity can bring hilarious results. But, there are so many characters in the game, it's quite difficult to know what to do when you meet them, so we've put together a list of the more interesting ones.

Level One – Putty Moon



Terminator Carrot: a bit of a psycho, this one - wandering the platforms armed with a machine gun. Watch out for his cry - "Uzi, 9-centimetre!", because he's about to pump you full of lead. Dodge his bullets using melt mode, and the recoil from his gun will cause him to fall from his platform.



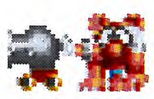
Septic Snail: a fairly anonymous character, that moves very slowly and doesn't go out of its way to kill you. Very deadly to the touch, nevertheless, so punch it, absorb it or squash it at the first instance.

Space Kid: bitter and twisted, this evil astronaut will attempt to slash Putty with sword. An accurate punch will make him go away pretty sharpish, though.

Level Two – Dazzledaze Villas



Scouse Sausage: this boxing Frankfurter is highly dangerous, but fairly predictable. Won't harm you unless you touch him, so don't. He can be eaten when you're armed with the false teeth power up, but don't punch him or he'll shout at you in the broadest of Liverpudlian accents.



Gun Powder Monkey: this little mite looks really cute – but his cannon is very, very deadly indeed. He's not afraid to use it either, so avoid him and his cannon balls, and punch him as soon as possible.



Snot Goblin: a disgusting creature who's incredibly fat and even more incredibly ugly. His green bogies should be avoided at all costs, and he should be eaten using the false teeth.

Level Three – Technofear



Pig on a Space Hopper: a quick punch will shift this cute but annoying alien. It's not easy to kill him though, to do this you must try to push him onto the electrified platform.



Red Shiny Gut Buckets: these horrible thingies eat white rabbits, and are also very poisonous to Putty. To kill them absorb a rabbit and re-mould (see box on the next page). The Gut Bucket will home in on you, thinking you're an ordinary rabbit, and swallow you whole. You will automatically inflate inside him, causing him to expand and burst.



Flying Saucer Bots: these guys are trying to assist you by crash landing on the aliens' heads, or skidding along platforms destroying everything in their path.

Rome

First Level – Herculaneum.

You must deliver the message you're given to Consul Segamus Megadrivus. He can be found relaxing at his country villa on the left hand side of the map screen. Look for the fountain as a signpost.

Now visit the baths and steal a toga. Next, leave Herculaneum. To buy your passage on a boat you'll need three cisterti. These can be gained by buying a dagger from the armourer you can find close to the boat-yard. Then threaten people in the street until they give you money.

You can also get money by buying lucky (loaded) dice. These will stand you in good stead later, but aren't much use at the moment. The dice-seller is to the right of the map. After shipping out, it's advisable to have at least ten cisterti at this point.

Second Level – Rome

If you have more than four cisterti left, you can go to the tavern and gamble (using your loaded dice). You need 80 cisterti to complete the level.

Wandering all over the city is a money-lender. He can be contacted by checking the identity of everyone you meet as you move around the city.

He will give you between ten and 30 cisterti. Remember how much he actually gives you because you'll need this figure later.

To get more cash, go to the slave market. Buy a gladiator (either male or female) and enter him or her into the combat trials. If he or she wins twice, you should have made enough money to leave.

Whatever you do, don't hassle the citizens of Rome. You'll be caught and... it's just not worth it.

You must perform one final act before you leave Rome for the first time; visit the Emperor's palace and bribe the guard to let you in. Once inside, warn the Emperor of an imminent threat to his life.

Third Level–Britain

The easiest way to win a glorious victory is to march your army over the bridge to the north of your starting position. You'll find an enemy encampment. Line up close to it and wait to be seen. The Celts rush out to attack you; you simply chop them into bits.

Once you've won, raid the encampment for more money, then cross over to the left side of the map and try and do the same.

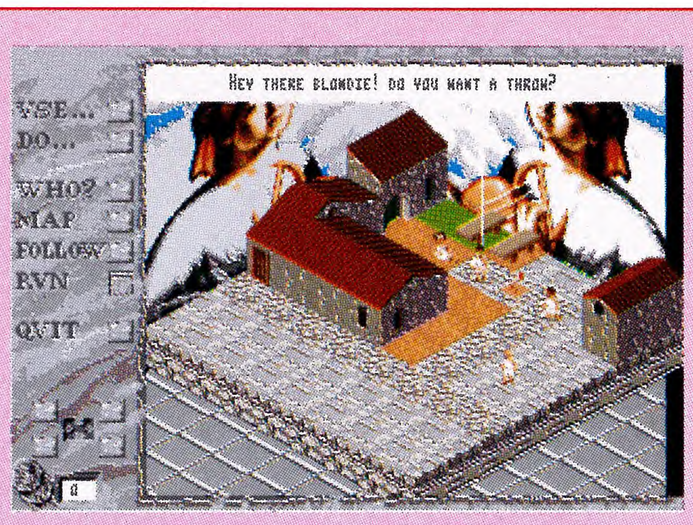
If your men aren't noticed, send Hector up to get their attention. When they see him, they'll chase him back to your waiting army. More chopping should ensue.

You should have gained some serious money from all this, as well as subjugated the Celtic races inhabiting the island. Time to leave.

Fourth Level–Rome

Upon your return, you must get yourself elected as a Consul. Bribe someone to nominate you for the post (politics eh?), then sponsor any satirists and playwrights to be favourable about you (satire eh?).

You must also repay the money-lender's loan. If you don't, he'll either hire a hit man to kill you, or will spread rumours about how you welshed on your debt.



Rome was filled with errant politicians and bribeable satirists. Nothing changes does it?

Give the other Consul, Nintendus, a slave girl to keep him happy, then bribe the populace to vote for you. If you're successfully elected as Consul, you get to go to Egypt, and the fifth level.

Fifth Level – Egypt

It's a replay of the Briton-bashing, basically. One important point, though. You must leave a number of men to guard Cleopatra. On no account must she be left alone; anything could happen.

In the fight against the Egyptians, try to spread your men out and pick off the opponents in manageable numbers.

Sixth Level – Rome (again)

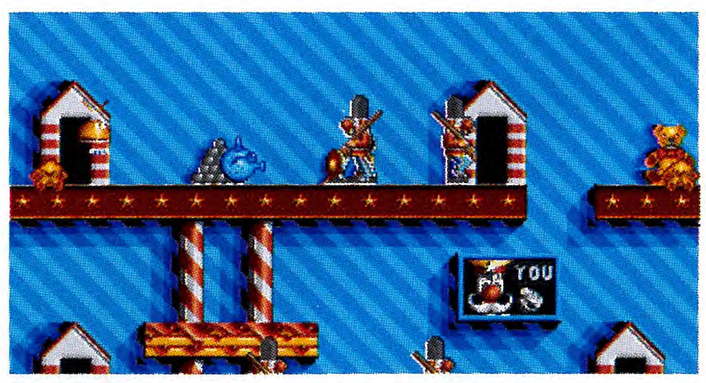
When in Rome... you'll want to become Emperor (well that's what all the Romans did – well except Claudius). To do this, the old one has to die. You can give him a helping hand, either personally, or you can distance yourself from the unpleasant task by hiring an assassin to do it.



The evil (but interesting, as all real baddie are) Dweezil punches through the back-drop to sneer.



If there is one thing worse than an interesting baddie, it's an interesting baddie in a spaceship.



Remember your teddy bear? His lovely brown eyes? His smile? The way he exploded on impact?

Level Four – Oriental Rooms



Holy Man: this guy looks pretty tame – just sitting there in the lotus position and all, but he releases noxious burp-bubbles which you should avoid, and he also has the ability to create a forcefield around himself. A carefully timed punch will dislodge him.



Chinese Vampires: these huge monsters fly about the levels, dropping Firework Imps from their robes – avoid them both if at all costs. You should use the false teeth to eat them.



Samurai Catapults: avoid the missiles from these horrible beasties because they'll shoot you as soon as look at you. The only way to dislodge them is to use inflate.

Level Five – Toytown



Clockwork Orange: a cool looking character that spits poisonous pips at you. Absorb him, then you can change into him using mould



Teddy Bear: watch out for him – he may look cuddly, but he doesn't like noise and reacts by charging at you and exploding on impact.



Bugsy: this is a low–down, mean character, who will shoot you on sight. Avoid him and his bullets (which have your name on them, incidentally) and eat him using the false teeth

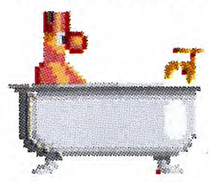
Level Six - Twilight Zone



Dweezil in a Flying Saucer: this is your chance to get even with the evil Dweezil. He will follow you around dropping mini-saucers on to your head. By re–moulding into the Black Hole character it is possible to absorb the cruel cat and send him into the fourth dimension.



Flying Gits: these annoying old gentlemen fly around the levels using jet packs, and swoop in on you – watch out, they are deadly to the touch. Punch them to bring them down to Earth (or the nearest level, at least).



Fatty Amal: this bulbous character and his bath–time fun bubbles are something you have to live with. How he creates the bubbles, I don't know, but avoid them if possible.

GETTING RID OF THE GUT BUCKETS



Shiny Red Gut Buckets can be a pain in the blob; not if you follow this seven-step guide to success:

1) Re-mould into a white rabbit.
2) Wait for a Shiny Red Gut Bucket (it won't be long, they'll find you).
3) Get swallowed by a a SRGB.
4) Expand in a generally lethal manner (to SGRBs that is).
5) Wait for the explosion.
6) Emerge victorious.
7) Repeat this action until satisfied or bereft of Shiny Red Gut Buckets.



Epic



***Epic* by name and epic by ambition. The evil Rexxons are wating for your challenge.**

An Epic battle is fought out in the heavens. Only you have the ultimate power over evil. Well, you and the Amiga Format tipsters. Read on space cadet…

Ocean's intergalactic shoot-em-up will give you and your reflexes a workout as you seek to destroy the alien scum and detritus that litter the universe.

It's a reasonable enough game to get started with but if you are having trouble with Ocean's visually very impressive space shoot-em-up, Amiga Format is here to help:

MISSION 1 – Minefield

Shoot the mines by zooming up to them and using your lasers. You need to get 100% while making your way to the planet.

If you do manage to get through the minefield before reaching 100%, turn around and shoot some more. One Rexxon ship will need destroying. When you manage to hit 100%, head for the planet.

MISSION 1 – Tracking Station

(Code AURIGA)

Fly to the purple target dot at the top right. This is the generator that's protecting the tracking station. Shoot and destroy this first (both parts) and then go back for the station (the purple dot towards the centre of the map).

MISSION 2 – CPU/Space Ports

(Code CEPHEUS)

Fly towards the centre of the map and find the road system. This is like the spokes of a wheel heading into the hub. Follow one of the roads to its end (away from the hub) and destroy one of the large buildings there. Fly back to the hub, following the road, and take the next road to the left. Repeat this until 100% is achieved. There are five spokes but you won't need to use all of them.

MISSION 2 – Mining Complexes

(Code APUS)

The bulk of the percentage on this mission is achieved by destroying the three MCPs, which are tall, octagonal buildings which turn black when destroyed. (Make sure you hit the top bit as well!) To find them, follow the double road which runs around the complex. (Not the monorail.) Also, shoot the low octagonal buildings with white 'flames' above them. And, if you're desperate for the odd 1%, try shooting fighters down.

MISSION 3 – Glory (Code MUSCA)

This is the first *Epic* space battle. To complete this you'll need to shoot down enough enemy ships to get 100%. These are the ones with down-turned wings, blue canopies and orange guidelines. Also look for larger ships (the ones with 'necks') as you'll get more points for these.

Formula One Grand Prix

An ***Amiga Format*** absolute, no questions asked, rave fave of a game. Play it straight for fun, but with tips it's staggering.

The inclusion of an indestructible mode makes it possible to do some serious cheating with F1GP.

When you're in a race (or even if you're qualifying on a circuit filled with cars), take off the computer-controlled brakes. Now when you're driving along a straight and there is a car just about to turn the corner ahead of you, don't slow down. Keep the wheel straight and the throttle full down. Then hit him as he slows (ideally around the 100 metre board). You'll shunt him off the track. If you've smashed into him before he's started to turn, you won't be knocked off the racing line, so all you need to do is brake slightly and corner as usual.

On many of the circuits you can gain places within the pack if you've started off near the back, by simply getting into the pit lane. None of the computer-controlled cars go into the yellow-marked lane, so if you can tuck yourself close to the grass, you should fly past the other drivers. On the Mexico circuit, you can actually get from last place to first on the main straight using this method.

Another hint; using the brakes obviously slows the car a great deal when approaching a corner, but it also makes the car travel in a straight line. If you brake while you're cornering, you'll tend to slide to the outside. The ideal is to brake around the 100 metre board, then release the brakes once you start cornering. Accelerate once you're past the apex of the corner, and you'll stay on the line better than if you'd just coasted through. You'll also save yourself time.

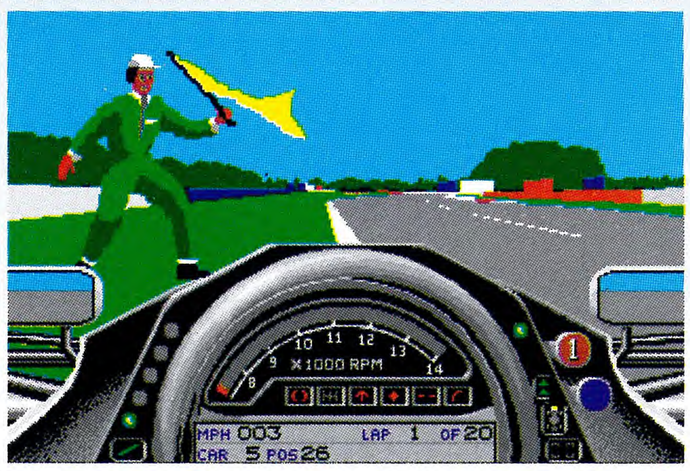
At Imola, the notorious Acque Minerale can also be skated straight across, rather than taken on the tarmac. Whenever you put the car on the grass for these manoeuvres, release the power and steer as little as possible. This minimalises skids, and is good advice for whenever you go off the circuit, whether by accident or design.

If you see yellow flags ahead, signifying that someone else has had an accident further up the track, you can get away with overtaking and travelling at excessive speed through the danger zone (until you see a green flag). Finally, bear in mind that if you must come into the pits to have a front or rear wing replaced, the mechanics also change the wheels.. But the whole thing can take over twenty seconds, compared with a standard tyre pit-stop of around seven. So don't damage your wings!

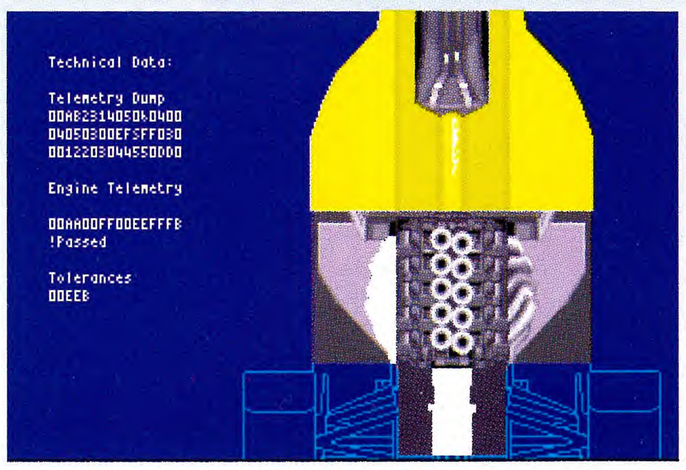
If you catch up with a tough driver ahead, shunting his wing so that it breaks will force him to pit in, wasting loads of his valuable time. It's even possible to concertina several drivers, damaging them all.



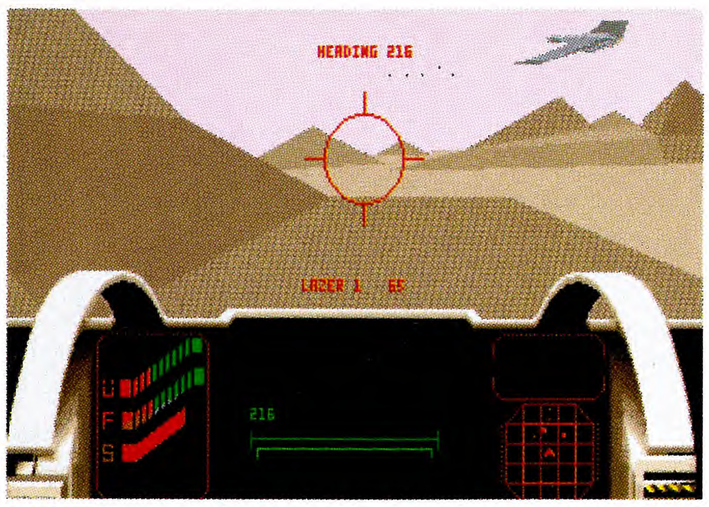
Don't you just hate it when people don't indicate when they're crawling along at 70 MPH?



Hello to you sir! I don't know what country you represent, but get the hell out of my face!



So many cylinders so little time. All this technical stuff is great, but let's hit the road fast, Jack!



"Geronimo!": No, let's be original about this space combat stuff!... "Apsic-Furbag-Jelly-Mussle-Sauce...

Try to get in as close as possible. Pressing Help tends to direct you to larger ships. Try to attack waves of enemies, rather than individual ships. To locate them at a distance, look for orange dots (their afterburners).

MISSION 4 – Magma Cannon

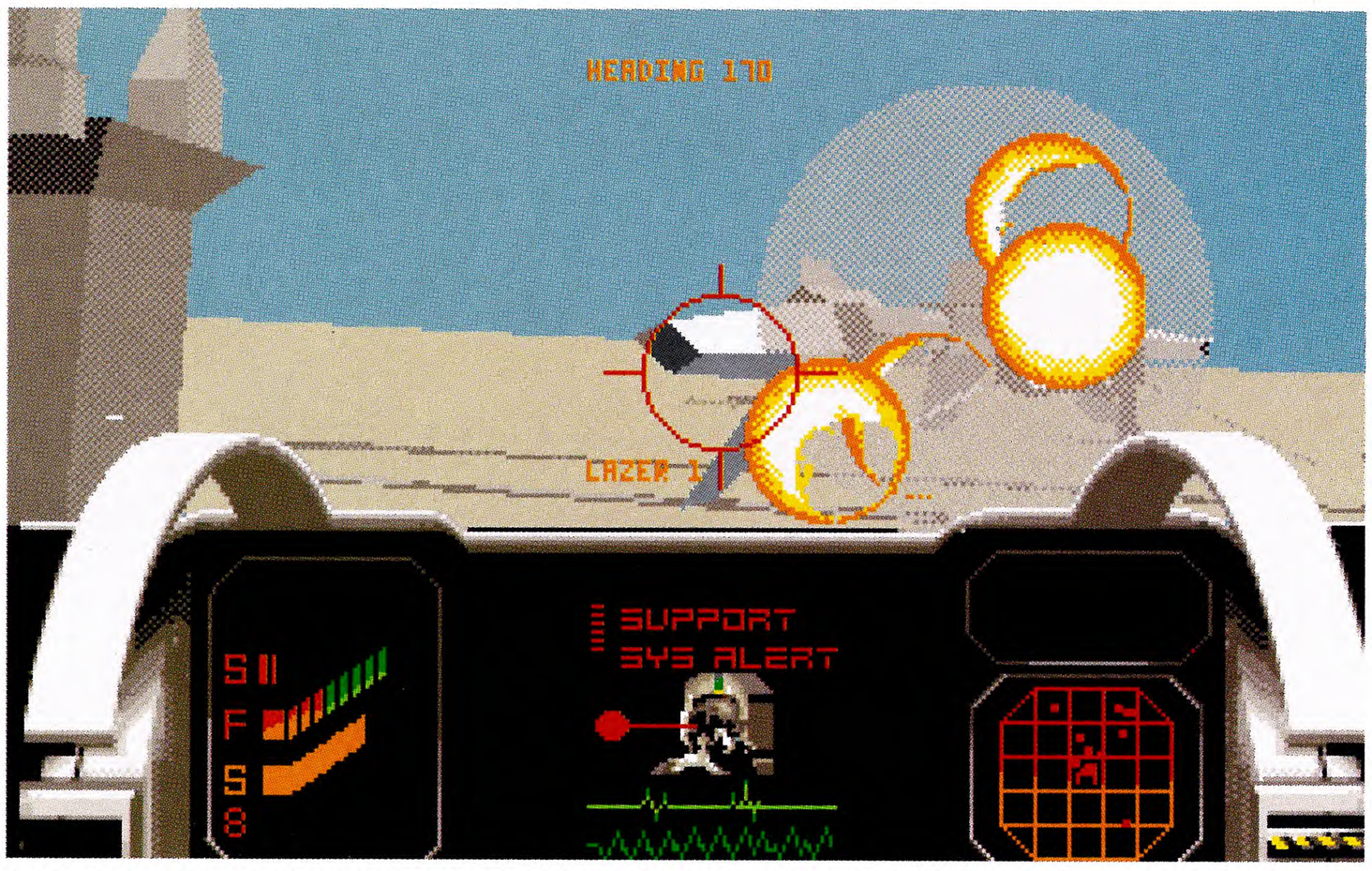
(Code PYXIS)

Head for the two black dots near the top of the map. Then press Help to get a bearing (approximately 210). Follow this heading, at low altitude, and destroy the cannon. Don't mistake steely mountain tops for the gun, and ignore enemy fighters as time is precious.

MISSION 5 – Galactic Storm

(Code CETUS)

This is the next big battle, and again you must get 100% by shooting lots of enemy spacecraft. Again, go for the big one as time is tight. Follow the same callsign as for the Glory mission.



"...Marimba-Tortoise–Forecourt-Catherine-Wheel-Harpsichord-Meat!". Well that feels a great deal better. Get the helmet straightened out, jumpsuit uncreased. Now, where did the evil Rexxon attack force get to?

MISSION 6 – Command Centre

(Code FORNAX)

The target is almost straight up the map. Use the Help key for a heading, and look for the purple dot on the radar which is your objective.

MISSION 7 – Mother of all Battles

(Code CAELUM)

This is a lot easier than the other space battles, as there's plenty of time. Tactics should be the same as the others.

MISSION 8 – Command Ship

(Code CORVUS)

Fly to the large purple target that appears on the radar after taking the heading given by pressing Help. Use Photon 1 (self-targeting missiles) to shoot the Ion Vent (little yellow box) above the afterburners. When this is hit, a message will tell you to use the cobalt weapon. Fly away from the mothership to a reasonable distance before firing it, and then run like the blazers.

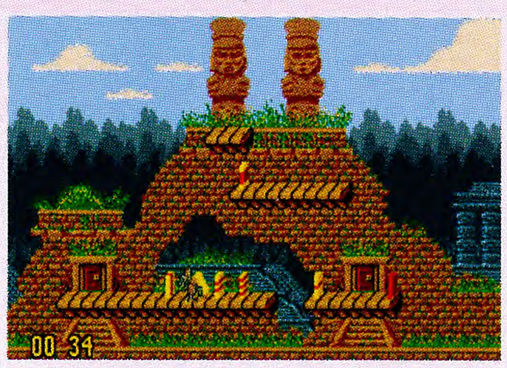
Push Over

"Ants! Urghh!" But not if you use these codes. Then it's: "Ants Hurrah!" All the way...

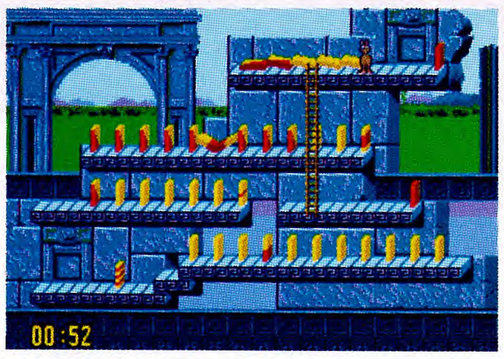
This is one platform game which is certainly no push over. You have to guide GI Ant as he makes his way through screen after screen of frustrating (yet strangely satisfying) puzzle action. The little lad will do his upmost to make the most of the job under your able command, but there is bound to come a time where you are left staring at the screen, unable to cope, wandering why on Earth you ever started out on this tack. This is where Game Busters comes to the rescue. To save your nerves, here are all the codes for each level. The *Amiga Format* team found this a godsend, and hopefully you will too.



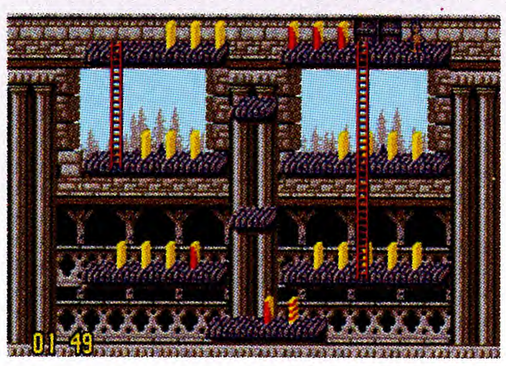
Oh, it's Colin Curly. Hello Colin. You really are very, very thick indeed.



There goes our hero, GI Ant, a brave character who lifts blocks a lot.



And there goes our hero GI Ant who is really rather fond of his blocks.



Yet another level, yet another set of problems for GI, you and the blocks.

Level	Code	Level	Code	Level	Code	Level	Code
1	00512	26	11782	51	21534	76	21631
2	01536	27	11270	52	23582	77	22143
3	01024	28	09222	53	24094	78	21247
4	03072	29	09734	54	23070	79	20735
5	03584	30	08718	55	22558	80	28927
6	02560	31	08206	56	18494	81	29439
7	02048	32	24590	57	19006	82	30463
8	06144	33	25102	58	20030	83	29951
9	06656	34	26126	59	19518	84	31999
10	07680	35	25614	60	17470	85	32511
11	07168	36	27662	61	17982	86	31487
12	05122	37	28174	62	16958	87	30975
13	05634	38	27150	63	16510	88	26879
14	04610	39	26638	64	16511	89	27647
15	04098	40	30734	65	17023	90	28671
16	12290	41	31246	66	18047	91	28159
17	12802	42	32270	67	17535	92	26111
18	13826	43	31758	68	19583	93	26623
19	13314	44	29726	69	20095	94	25599
20	15362	45	30238	70	19071	95	25087
21	15878	46	29214	71	18559	96	08703
22	14854	47	28702	72	22655	97	09215
23	14342	48	20510	73	23167	98	10239
24	10246	49	21022	74	24191	99	09727
25	10758	50	22046	75	23679	100	44543

There you go then; we don't want to give too much away. But if you do need more help, don't forget that every month *Amiga Format* prints tip after tip for game after game. Write to us at Game Busters, *Amiga Format*, 30 Monmouth St, Bath, Avon, BA1 2BW if you need some help.

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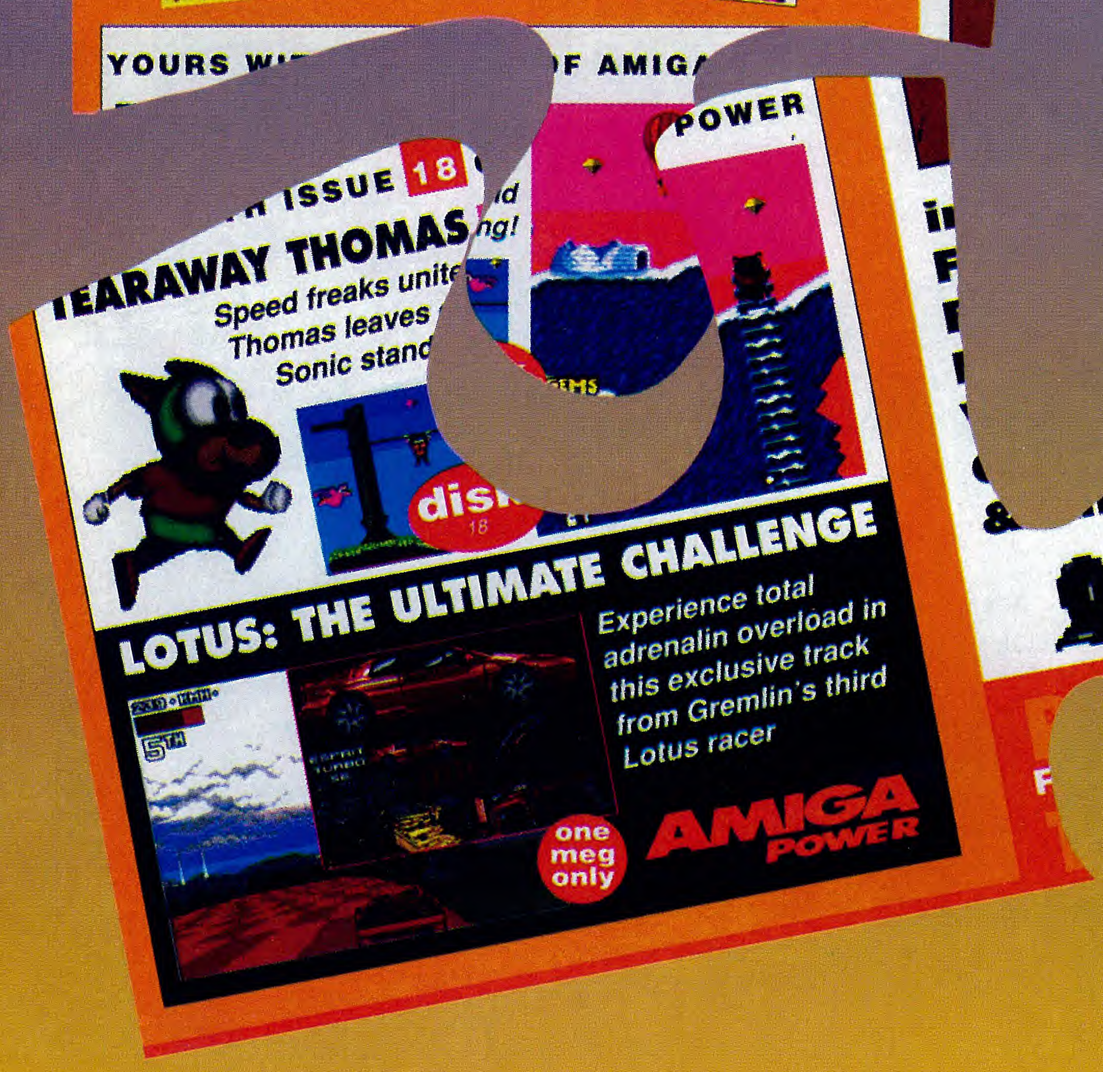


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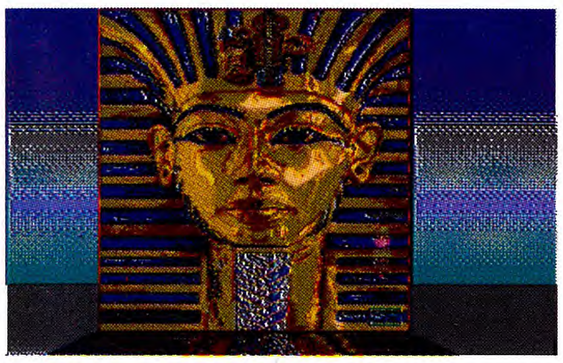


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Starting out with 64

How **Deluxe Paint III** delivers the goods



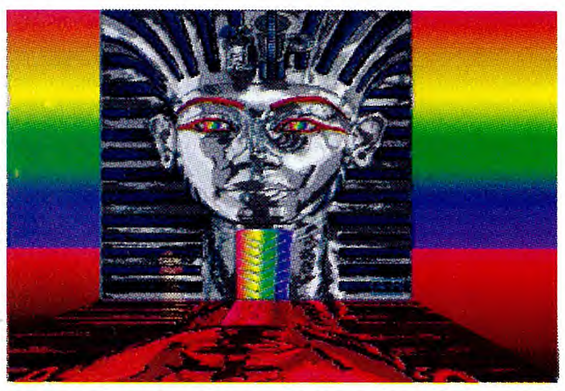
Deluxe Paint III **is the business for painting in up to 64 colours.**

Deluxe Paint III is simply the business, so good that games programmers use it to create their graphics. The Amiga has six built-in 'graphics modes' but the last one is a bit of a cheat: *Deluxe Paint* uses all the other five so well that there *is* no other paint program unless you want to use that sixth graphics mode: on which, more below!

Our tips on using *Deluxe Paint III* should tell you everything else you need to know, so let's look at those five graphics modes. *Low Resolution* gives you a screen 320 pixels wide and 256 pixels high, using 2, 4, 8, 16 or 32 colours. *Interlace* doubles the vertical resolution to 512 pixels high, still with up to 32 colours, but the picture flickers. *Medium Resolution* has twice the horizontal detail at 640 by 256, while High Resolution doubles the vertical too, giving a resolution of 640 pixels by 512 pixels down: but both can only use 16 colours at most. Finally there's *Extra Half Brite* (EHB) which gives you an extra 32 colours of half the brightness of the first 32 – a total of 64 colours. Now read on!

Move on up to 4096

Get the max with even more colour!



Now there's *Deluxe Paint IV,* which lets you use all 4,096 colours.

That mysterious sixth graphics mode is a thing called HAM, which means Hold and Modify. It's a programming swindle which lets you paint with 4,096 colours on one picture. This pays off no end in realism, but it does cause a problem. Obviously you can't put all 4,096 colours on a picture one at a time, so the emphasis with a HAM paint program is on tools to put blends and mixtures of colours on for you. Now for some more good news for you lucky people. Until recently, there were several good HAM paint programs on sale, but no really great ones. Now *Deluxe Paint IV* is available. It uses HAM, it's very good indeed, and you can get it, by trading in your *Deluxe Paint III,* for the reduced price of £45. Details from Electronic Arts 0753 549442.

The ultimate realism

True Colour gives photographic quality



OK, so you might not mistake it for a photograph: but it's not far off.

The very latest in graphics for the Amiga is a thing called 'True Colour'. This involves plugging in a big extra circuit board, so you can only do it on an Amiga 2000. It's very expensive and only for real experts: but we thought you'd be interested to know that the Amiga is still at the forefront of the computer graphics scene!

True Colour allows you to use as many colours as you want from a palette of over 16 million! In fact, even if you make every single pixel on the screen a different colour you can still only fit about 327,000 different colours on there, but this lets you use as many colours as there are in nature: it's as realistic as the best photograph!

Or make a model...

You can actually build a picture in 3D



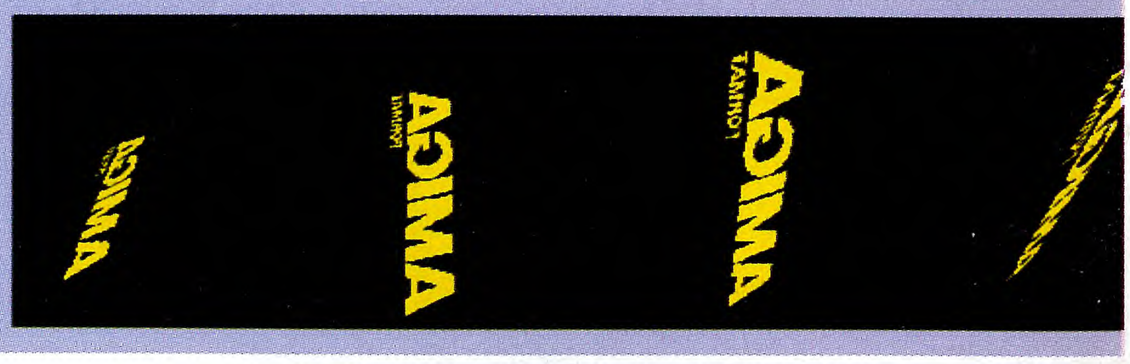
Three-dimensional graphics can create natural light and shadow.

There's another way of making very realistic pictures that only uses the Amiga's standard 4,096 colours, and that's building them as a 3D model. A 'wireframe' picture on the screen allows you to create shapes which you then 'render'. This process involves a lot of very complicated mathematics which some dead clever programmers worked out, but all it means to you is sitting for literally hours while the Amiga does the work. At the end you have a picture in which all the reflections and shadows caused by light rays are reproduced very accurately. It's not a field for beginners because you need a lot of hardware, but you'll see many a 'ray-traced' 3D picture around.

MAKE YOUR OWN ANIMATIONS:

Possibly *Deluxe Paint III*'s most powerful and most exciting feature is its animation. With this feature you can create virtually any kind of animation you wish, from cartoons to fancy titles and effects for your own videos.

Animations can be constructed in two ways. You can either draw each frame individually, which is the hard way of doing it, or pick up part of the screen as a custom brush and set a movement path with the MOVE requester. Sound interesting? Then let's have a little example...



The wond

Amiga Format prides itself on the fact computer and one of the best paint and

TAKE CONTROL OF DELUXE PAINT:

DOTTED AND FREEHAND DRAWING: These enables you to squiggle lines all over the screen with the current brush. By clicking in the bottom right-hand corner of the freehand tool you can draw any shape and it will be filled in.

LINE DRAWING: This enables you to set a starting point and drag a line around the screen before stamping it in the right place. Clicking with the right button enables you to set the type of line used.

FILL AN AREA: Fills an area with the colour you're painting with. Clicking on this with the right button also enables you to set a textured fill using a range of colour or a pattern from a brush.

RECTANGLE: This enables you to draw hollow rectangles with the current brush, or, if you click on the bottom-right half, filled rectangles.

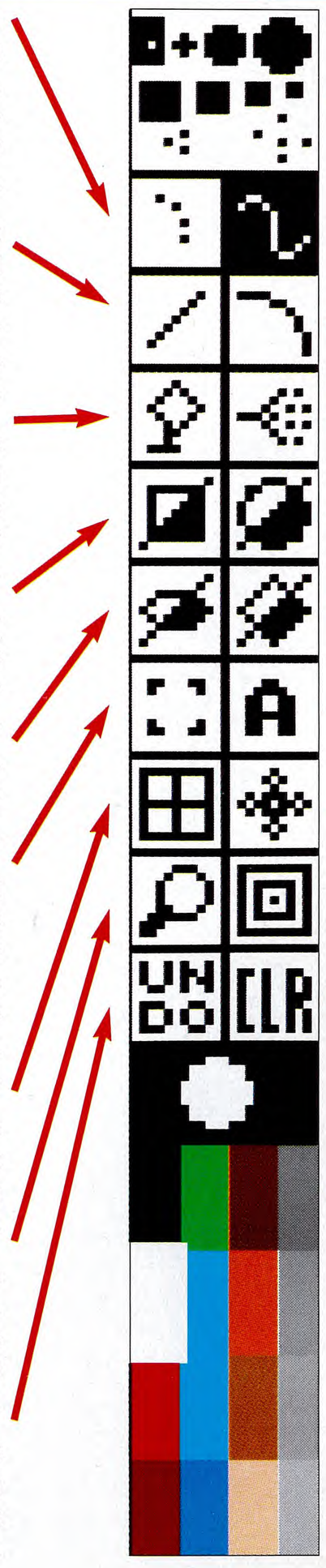
ELLIPSE: You can use this tool to draw filled or hollow elliptical shapes at any angle. It does the hard work for you.

CUSTOM BRUSH PICKUP: By selecting this, you can pick up an area of the screen to use as a painting brush or to set as a fill pattern. Picking a brush up with the right-hand button cuts the brush from the display leaving a hole, using the left button makes a copy.

GRID: This restricts your mouse movement to the corners of a preset grid, which can be adjusted by selecting the tool with the right mouse button.

MAGNIFY: This enables you to zoom in on a particular area for close-up work. Clicking with the left and right mouse buttons on the Zoom tool to its right will zoom in or out respectively.

UNDO: If you make a mistake, this is the button to hit! It undoes the last thing you did, but only if you don't click anywhere else before you Undo.

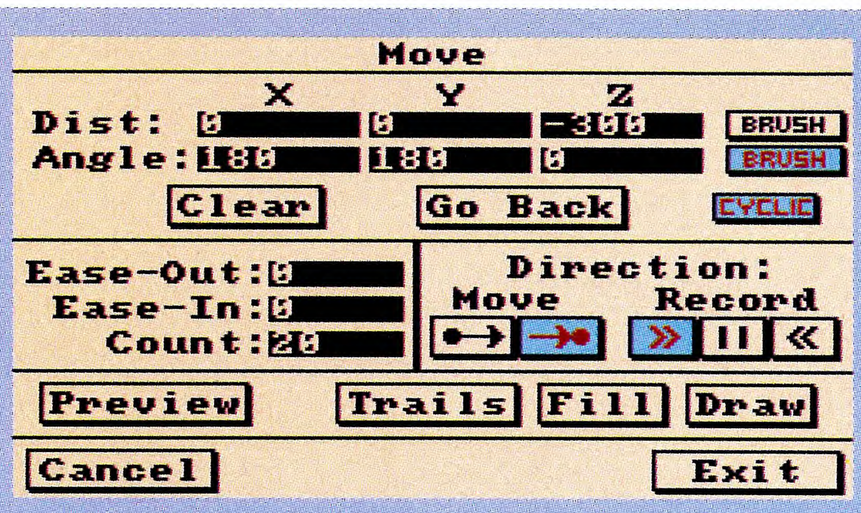


IT'S EASY WITH DELUXE PAINT!

Boot up *Deluxe Paint* in Low Resolution mode and go to FRAMES in the ANIM menu. Go to SET and type in 20 as the number of frames.

Press J to get to the scratch page and load up any picture, then select CUSTOM BRUSH PICKUP from the control panel and pick up an area of the screen to use in your animation.

Press J to get back to the animation and press 1 on the keyboard to jump to the last frame. Now stamp your brush down right in the middle of the screen. Go to MOVE in the ANIM window and enter the values as in the picture on the right:



Now all you need do is click on the icon that has an arrow pointing towards a dot. This sets the animator so that it will work out the frames to end up at your current position.

Finally click on DRAW to render the animation and press 6 on the keyboard to view the marvellous effect.

Now, wasn't that easier than you thought? Good! Now you can try experimenting with your own animations!

erful world of Graphics

that we use some of the best graphic artists in the world. Now you have the best graphics package, we think that we should get together. Go on... paint!

Here's how to use all the tools...

THE BRUSHES: By clicking on these, you can select the size and shape of brush you want to work with.

CURVED LINE: This works in the same way as line drawing, except that once you have placed your line you can bend it by moving the mouse.

AIRBRUSH: This sprays a pattern on the screen using the current brush. Clicking with the right button enables you to set the size of the airbrush.

CIRCLE: This works in a similar way to the rectangle tool, except using filled or hollow circles.

POLYGON: This enables you to draw a series of linked lines to form a hollow or filled polygon shape.

TEXT: Using this tool, you can type text directly on the screen. Clicking on this with the right-hand button calls up a file requester to enable you to change the style of the type or even load in totally different fonts.

MIRROR: This enables a kaleidoscope effect, where all your moves are reflected in preset directions to give strange and interesting patterns.

CLEAR: Clears the screen to the currently selected background colour.

COLOUR PALETTE: To select a colour, simply click on it in the palette display. Selecting a colour with the left button designates it as a foreground colour – in other words, one to paint with – whereas clicking with the right button sets it as the background colour.

You can also select a colour from the screen by clicking on the round coloured blob just above the palette and selecting the required colour from the main screen. If you want to get to the mixing palette, click on the blob with the right button.

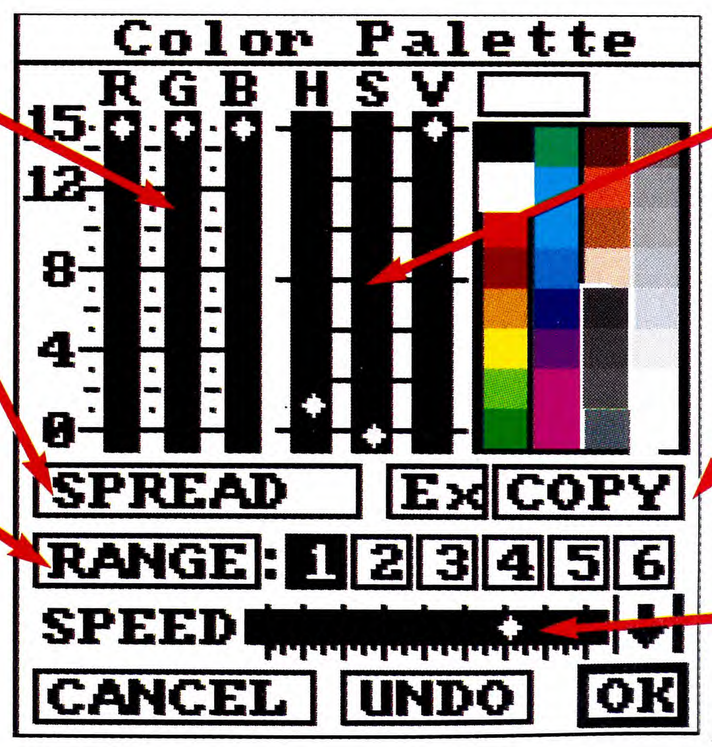
THE MIXING PALETTE: Here's where you make your colours

This is where you mix up the colours to use in your painting. TV screens use a combination of red, green and blue to mix colours and *Deluxe Paint* uses the same technique. There are 4,096 different combinations of red, green and blue allowed: have some fun with it!

RED, GREEN AND BLUE SLIDERS
This is where the actual colours are mixed around.

SPREAD
By setting start and end colours, you can use Spread to calculate the inbetween shades.

RANGES
You can bracket sections of the palette to form ranges and store them in six sets.

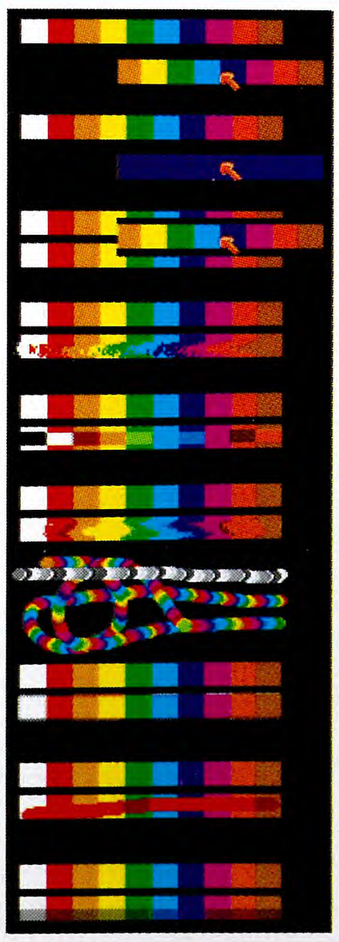


HUE, SATURATION AND VALENCE
If you prefer to adjust colours by changing the colour, richness and brightness, then do it here. It gives just the same results as RGB colour mixing.

EXCHANGE and COPY
These both enable you to move colours around and copy colours to other places in the palette.

CYCLE
Controls the direction and speed at which colour cycling works.

THE MODES: Deluxe Paint features ten different ways to paint...



MATTE: This enables you to draw with a Custom Brush with the background colour set to transparent.

COLOUR: The normal drawing mode, this draws with the current brush shape in the selected colour.

REPLC: Replace mode draws with a custom brush, including any background colour the brush contains.

SMEAR: Smear scatters pixels under the brush, giving a smeared effect like rubbing your finger over a blackboard.

SHADE: This shifts the colour under the brush one along in its range. The left-hand button moves one forward, while the right button moves one back.

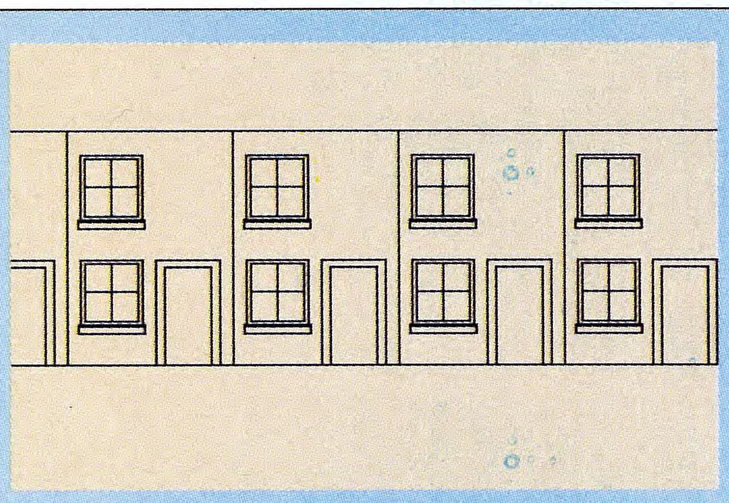
BLEND: To give a blended effect, this mode averages out the colour under the brush using colours in the same range.

CYCLE: This draws with the current brush, stepping through the colours in the current range every time a new blob is drawn.

SMOOTH: Smooth looks at the boundaries between colours under the brush and places varying shades along the edges to smooth them out.

TINT: This replaces colours on the screen with the nearest shade in the current range, allowing you to keep the same shading with a different colour.

HBRITE: This is a Halfbrite shading mode and can consequently only be used in 64 colour mode.



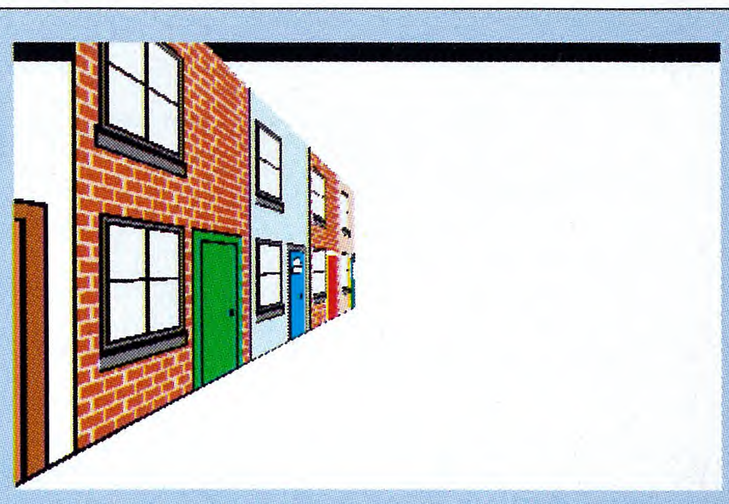
The first thing we're going to do is draw one side of the street, as it would be viewed from the opposite side. Remember to remove the menu while you're drawing – press F10 to switch it on or off.

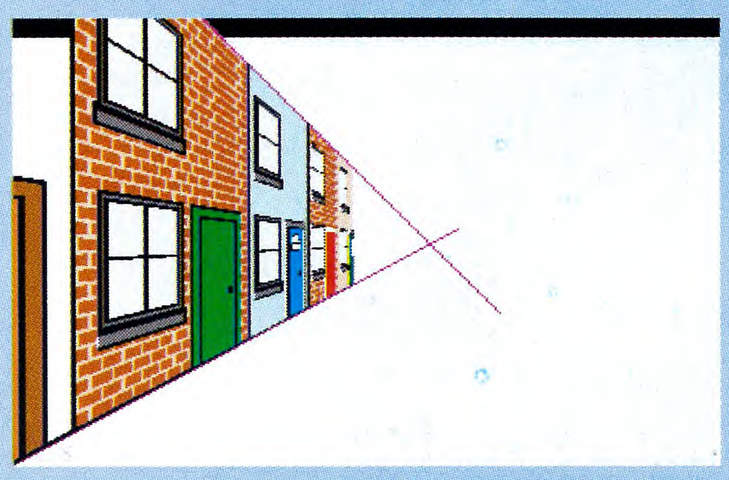
Draw the basic outline of a house front using the line tool, then add some windows and doors. Pick it all up as a brush by dragging the brush box around the house shape, then draw several side by side.



Press P, and create some brick colours. Swap to the other drawing screen by pressing J, draw a brick pattern, and pick it up using the brush tool. Click right on the fill icon, then click on 'From brush'.

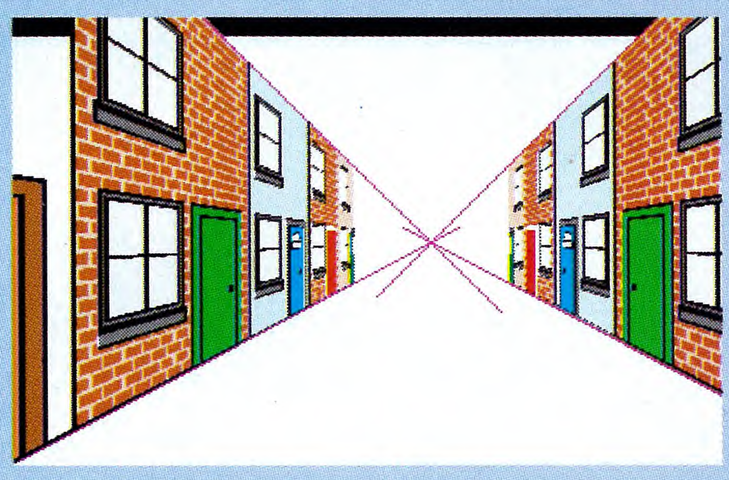
Press J again, then click left on the fill icon. Now click left on one wall, and it will be filled with the brick pattern! Make two houses brick. Click right on Fill again, and select the Solid option. Pick it all up as a brush, then clear the screen and go to 'Do Perspective' on the Effect menu. Now, you need to use the keys to rotate the brush. *DPaint* has just been modified so we're not sure which keys they are: check in the manual what keys to use, and if you can't work it out, telephone Electronic Arts on 0753 549 442. Move the mouse around to size and position the brush. Click the left button to position it.





Draw lines along each edge of the image in a colour that won't be in the final drawing (eg magenta).

Pick up the whole caboodle as a brush again, then go to 'Flip Horiz' on the Brush menu. This will mirror your brush along the horizontal axis. Now move the brush around until all the magenta guidelines match up, then click left. The point where all these guidelines cross is called the 'Vanishing Point'.

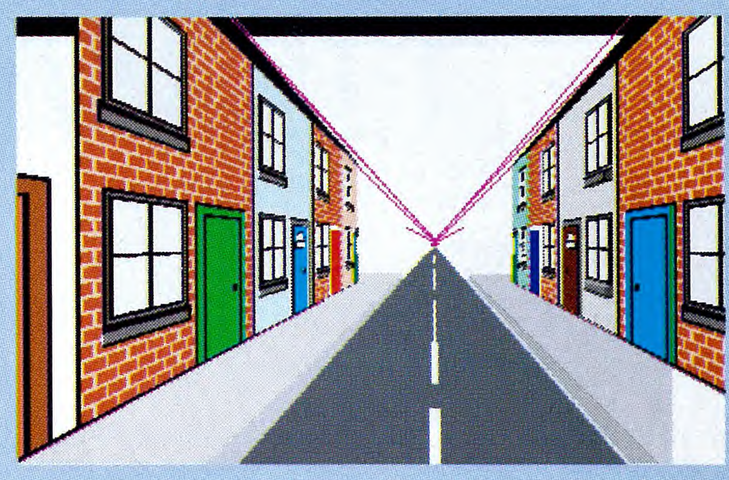


Right, that's the main complicated bit out of the way, and the rest is pretty simple. All we've got to do now is add some detail such as the road and the sky.

Draw the guidelines for the road first, by tracing two magenta lines from the vanishing point to the bottom of the screen. Remember to leave room for a pavement. Create a few new grey shades using the colour palette, then use them to draw the road and the pavement.

Now draw lines in dark grey from the vanishing point along the pavements, and some staggered horizontal lines to form the pavement cracks.

Using the line option, draw a magenta line from the vanishing point to just above the tops of the houses so that you have a guideline for the rooftops,





Now we must get rid of the magenta guidelines. Although it isn't difficult to remove them using the magnify facility, it is very time consuming and can be achieved much more quickly using the stencil facility.

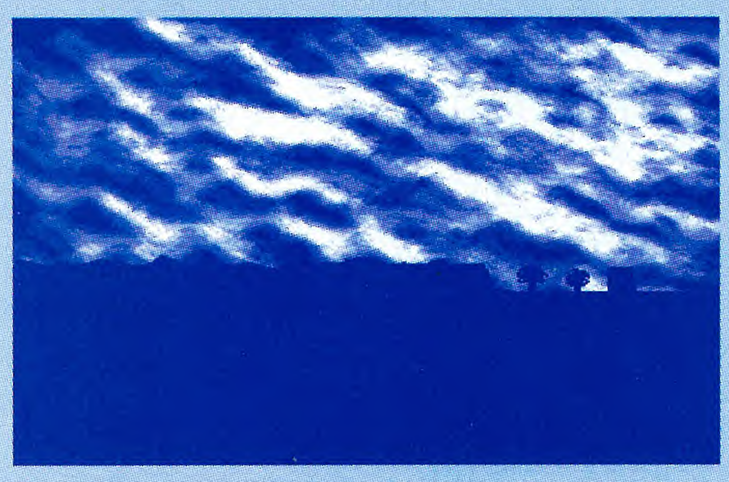
Access the Make Stencil option from the Effects menu, or hold down Shift and press the '~' (tilde) key. Click on Clear, then select magenta from the range. Click on 'Invert' and then 'Make', and this will effectively 'lock' all the colours in the range except for the magenta of the lines we want to lose.

Using a fairly large brush, select freehand mode and paint over all the areas of magenta with the required colour. For example, around the pavement area select a light grey colour, and select white for the sky areas. When you've finished, turn the stencil off by pressing the apostrophe key.

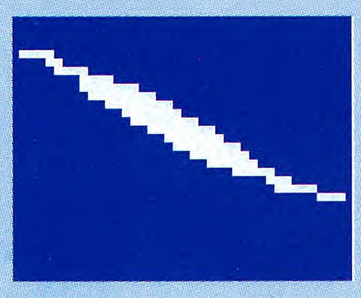


It is now safe to add in some detail for the street scene. Use the magnify option as much as possible, because you will find it much easier for detail when working at pixel level.

Don't go overboard! This is very important. Concentrate on tidying up what you've already drawn, and just add very simple details one at a time. That way you can always use Undo if you think



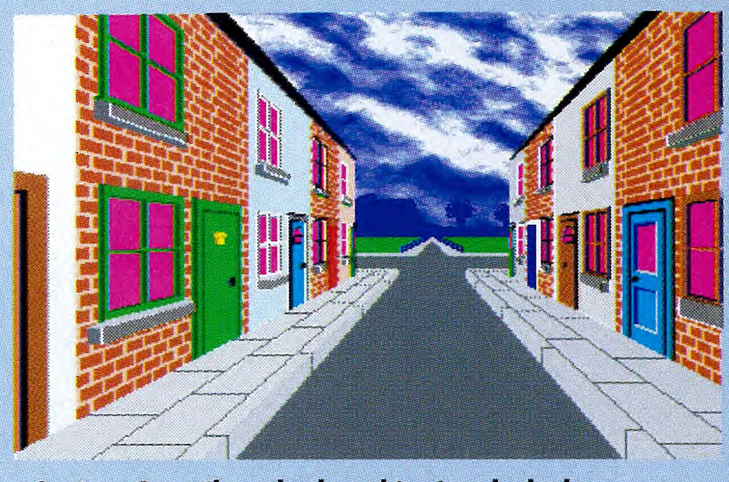
Create two way-out colours that aren't used in the main drawing (you've already got magenta, so just do one more – eg cyan), then fill in the sky with one and all the windows with the other. Flip to the other screen by pressing J, and use the palette to create a mid-blue colour just below the way-out colours you created earlier. Make the bottom right–hand colour white, then click on Spread. Click left on the new blue



colour, and the Amiga will calculate a range of shades between the two. Click on Range, then on white again. This makes the shades into a group. Set the background colour to dark blue, and the foreground colour to white. Using the Filled Polygon tool, draw a short diagonal shape like the one above.

Now pick it up as a brush, select the darkest blue as a background colour, then clear the screen. Click on the Airbrush icon, and select Shade from the Mode menu. Now hold the left button down as you wibble the cursor about the screen, and the Amiga will draw the brush shape in the colours chosen as a range.

For effect, try drawing a distant hilltop scene using the filled polygon option with a dark blue colour, like in the picture on the left. Pick up a good-sized portion of the screen as a brush, then flip to the main screen.



Go into Stencil mode, but this time lock the cyan colour, then click on Invert and Make, and press the F3 (Replace) key. You will now find that the sky brush will only be shown in the background, so position it then click left. Turn the stencil off again.

To get a nice shiny effect on the windows, swap to the other screen again, clear it, then draw a short diagonal line in white. Pick it up as a brush. Click on

Getting into perspective

Month after month, Amiga Format runs in-depth tutorials and 'how-to' guides for all manner of software. We created this walk–through demonstration so that you can have a go at Deluxe Paint yourself. So live and learn...



then fill the rooves in with black.
If you have been removing the menu while you draw, you may have noticed from time to time that the top part of the menu leaves a black patch behind when it is removed. This is a slight quirk of *DPaint*, but it's a mistake which is easily corrected.

Simply select the appropriate background colour (in this case white), click left on the Fill icon, then fill in the offending area with the selected colour.

This 'glitch' doesn't happen too often, but it can be a pain when it does - so be careful.



you've gone too far. Also, don't use too many colours from the palette, as you will need between eight and twelve spare ones when drawing the sky. Optimise you palette if necessary – see the *Beginners* section of the main feature for more details.

From the pictures above you can see that we have added some details: windowsills beneath the windows using the different scales of grey which are available; some shadows for the frames and doors (this effect is also known as 'bas–relief' shading, and is used very often to give a feeling of depth or to add a 'metallic' feel to an object); and a bit of detail near the vanishing point – just a bridge and a field for now.



the next shade of blue from the range, then press O. Click on the next blue shade, then press O again. Do this a few times, then pick it all up as a brush.

Flip to the main screen again, then lock magenta using the stencil. Paint over the windows using the brush, creating an effect similar to the one in the picture above. Turn the stencil off again.

We decided that the sky and background were a bit too dark, so we lightened them up a little by adding some red and yellow components to each of the blue shades, and changed the hills in the background to mid–green. This made the whole scene brighter and more cheerful.

The name of the game is experimentation, and now you're experienced in some of the techniques used in *DPaint* – use them!

Absolute Beginners

DPaint II can be pretty daunting for the first–time user, so here are some hints to get you started...

- Read the manual: if you never read any other manual, try to work your way through this one and do all of the tutorials. The *DPaint* manuals are particularly good for beginners. You will be amazed at what you learn and at how useful this knowledge will be as and when you come to use other paint programs.
- Use keyboard shortcuts: right from the start, familiarise yourself with the keyboard as well as the mouse. Use the keyboard equivalents (also known as 'shortcuts' – see your manual) as often as possible, and you will not only draw more quickly but you will find it easier to access some of the features.
- Save your work: make sure you have several blank formatted disks handy, and save your work frequently. There is nothing more frustrating than losing loads of hard graft when you accidentally kick the off switch.
- Use the art disks: it's always best to start off with someone else's pictures, play around and modify them using the tools available just to get confidence.
- Sketch your drawing first: if you're drawing a freehand picture, divide the screen into working areas, and use the Line or the Dotted Fill tools to sketch the main outlines of your picture in roughly.
- Guidelines: use a falsely bright colour for guidelines, and remove it later with Stencil (lock all the other colours and clear) or Fill (see below).
- Mouse buttons: remember that left button draws in foreground colour, right button draws in background colour.
- Use the magnify facility: never attempt to draw detail when in full-screen mode, as it's very easy to make a mistake.
- Symmetry: if you can see horizontal or vertical symmetry in an object, just draw one half, pick it up as a brush, press x or y to flip the brush horizontally or vertically then paste it down next to the original. Also, try drawing the whole thing freehand and then choose the best half to flip.
- Freehand sketching: drawing with a mouse is a bit like drawing with a child's crayon, pretty crude. The Freehand tool is OK for rough sketches but if you want to make an accurate, controlled line use the Unfilled Polygon tool. A series of short straight lines can even make a good curve.
- Straight lines: bitmapped images are composed of square dots and these always produce 'stepped' edges (also called 'jaggies') – so even a straight line at an angle can look jagged. Some angles can be much rougher than others so always look carefully at the lines as you draw them. A slight adjustment can sometimes make a great improvement.
- Use the full screen: you can toggle the menu on or off using the F10 key, thus making the screen significantly larger, but you would be surprised how many people don't. Alternatively, you can scroll around the full screen with the main menu switched on by using the cursor keys.
- Second drawing screen: *DPaint* has a second screen which is held in memory at all times, and is particularly useful as a 'doodle' screen where you can prepare brushes for use. Toggle between screens by using J.
- Get used to using the stencil: this is an extremely useful facility that enables you to 'lock' certain colours from the palette so that they can't be erased.

For instance, to change all red pixels on the screen to blue pixels, select 'Make Stencil' from the Effect menu, click on Clear, then select the red colour either by clicking on the palette or on the relevant point on your picture. Click on Invert to select all colours except red, then click on Make. Select blue as the background colour, then click on the clear icon. Magically, all the red will turn to blue. Remove the Stencil facility by pressing the apostrophe key.

- If you have to change the palette, try to be organised. Keep similar colours together. The first two colours in the left row are the initial background and foreground – if you change these make sure they contrast or you won't be able to see the menu!
- Optimise your palette: if you are in 32-colour mode, and you've only used 16 colours or less, you can tidy up your palette by accessing the 'Screen Format' option from the Picture menu, and changing to 16 colours. The program will take all the used colours and arrange them into the new palette, so if you go back to 32-colour mode you will find that there are at least 16 unused colours on the right hand side of the palette.
- Using custom brushes: picking up areas of the screen is easy with the Brush Selector. Remember that left button copies the area and right button cuts it.
- Object Recycling: when you have a large number of similar objects to produce – trees in a wood, faces in a crowd, stones in a wall – draw one and recycle it. A slight change of size or rotation can introduce enough imperfection to make quite different images; this effect can be further enhanced by flipping horizontally and/or by changing colours.
- Gridlock: whenever you are working with a subject needing precise alignment remember to use the Gridlock. This also makes it easy to line up repeated patterns.

For example, a building with many similar windows will retain its symmetry; drawers in furniture will line up, so will keys on a keyboard, rivets on a boat, or pictures in an exhibition. Hold down the SHIFT key to lock the cursor in one axis, making things easy when positioning items in a line.

Access All Ar

Naturally, you're going to do much more than play games with your Amiga, aren't you? Every month, Amiga Format introduces new techniques and recommends the best in software and hardware, so let's start with a look at all the different areas you can get involved in...

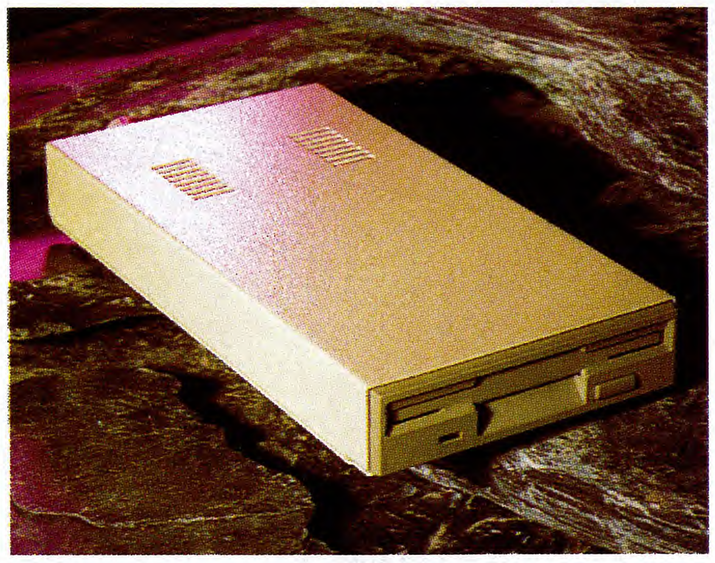
ALTHOUGH IT IS known for its colourful games, the Amiga is also popular with people who want to try their hand at creating their own graphics. Far and away the best paint program for the Amiga is *Deluxe Paint*, which comes free with your A600.

But there's also lots of other, more advanced ways of creating anything from amazing space scenes to full-blown cartoon animations and special effects sequences. In fact, many people get so keen on graphics that they spend literally thousands of pounds on extra hardware to help them produce bigger, better images.

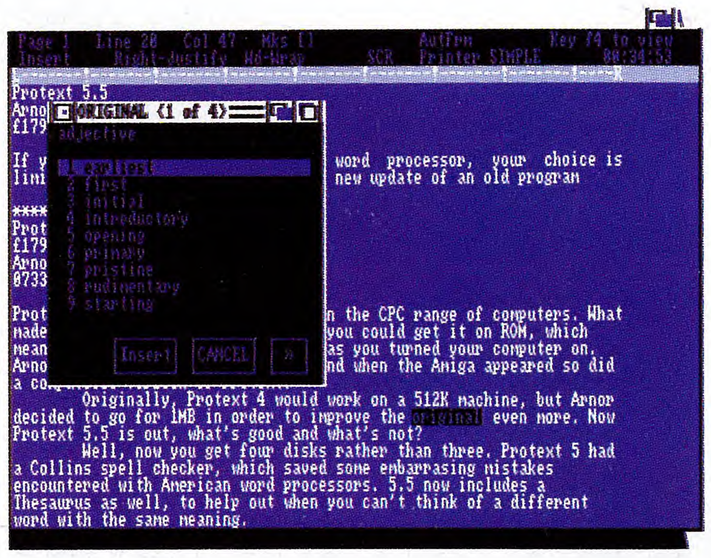
Apart from graphics, though, there are many, many more of ways that you can use your Amiga to help you out.

For example, word processors are very popular pieces of software – using this kind of program you can write letters, books, CVs, menus, scripts in fact anything that takes your fancy. And, the more advanced the word processor, the more you will be able to achieve.

There's all kinds of other useful and fun kinds of software too. We'll take a look at them all, briefly, here. But often you'll find an extra bit of hardware is useful too. So what follows also includes recommendations for hardware buys that will help you spend your money wisely and get what you want.



First smart buy is a second ('external') floppy disk drive which makes life much, much easier.



There's no more useful kind of software than a word processor, invaluable for all kinds of writing.

SECOND DISK DRIVE

A second floppy disk drive plugs into the socket on the back of your A600, so fitting one is simplicity itself, and is a great first buy because it makes life so much easier. Games that come on more than one disk are made more enjoyable and, when you're using Workbench, copying files from one disk to another becomes a doddle.

Recommended

Our favourite is RocTec's Roclite drive, which costs about £60, has a smart slimline appearance, is solidly built and loads data from disk very speedily indeed.

WORD PROCESSING

Most people have used a word processor before and they have now taken over from typewriters as the standard way of writing. They're great because you can get them to check your spelling and you can cut bits of your writing out and move it to somewhere else if need be. Only when you're happy with what you've got do you get it printed onto paper. Useful for anyone who writes a lot, whether you're a school or college student or just and avid letter-writer.

Recommended

The WP program we use is *Protext 5.5* from Arnor, the best and biggest word processor on the Amiga. It comes with spelling checker, thesaurus and all manner of other widgets to make writing fast and easy. A good, basic alternative is *Scribble!* which is a lot cheaper than *Protext*, about £35 rather than £80.

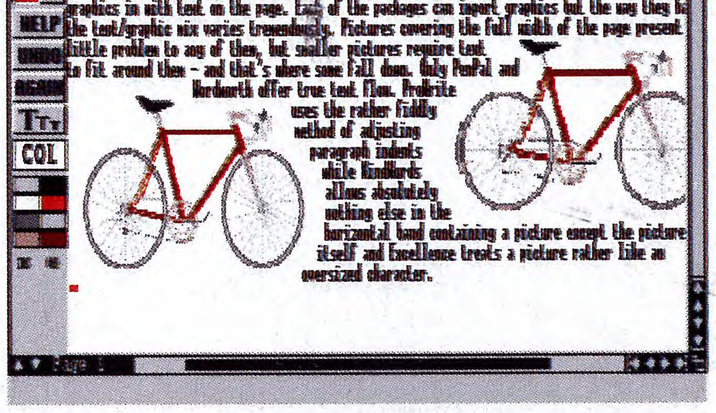
WORD PUBLISHERS

These are word processors that can also use graphics. This means you can stick pictures created using a paint program like *Deluxe Paint* into your documents, using them as illustrations to go with your words.

You can print out whole pages in colour. It's great if you want to do stuff like posters and fanzines, though you can't do as much design as you can with a DTP program (below).

Recommended

Although there are several excellent word processors and word publishers available (an many upgrades being made every month) *Wordworth* to become available in its Version 3 which comes with a free word processor and graphics program. Alternatively, we gave *PageSetter* version 1.2 on Issue 34, so get a back issue from us for a fiver and you're laughing all the way to the page.

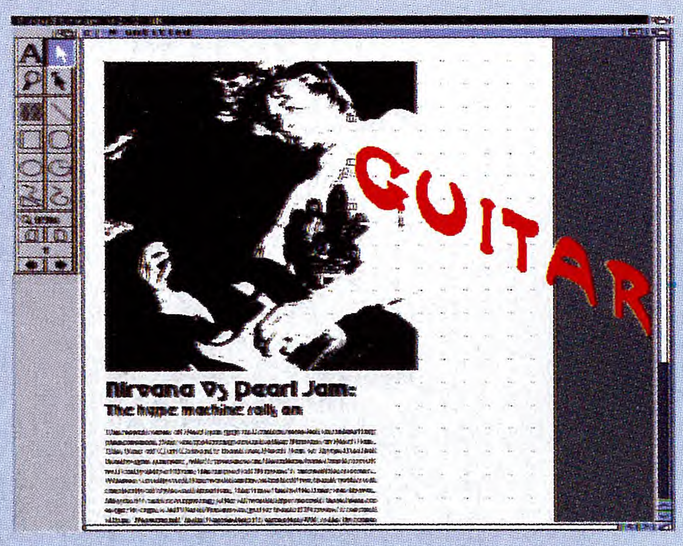


If you want to use pictures along with your words, you need a program called a 'word publisher'.

DESKTOP PUBLISHING (DTP)

The technique used to make this very magazine. Write words using a word processor, create pictures using a paint program or a drawing package (or by 'scanning' or 'digitising photos – both are explained below) then combine the two into complete pages.

DTP packages are layout and design programs that let you change the typefaces and sizes of the words and the size of the pictures until you end up with a design you like, then print out the results in all their glory. It's ideal for fanzines, posters, magazines and everything that needs to look good in print. But it does need a bit of expertise and a lot of extra hardware to get professional quality results.



DTP programs tend to be expensive and the hardware requirements are often fairly severe. But you could find DTP an obsessive hobby.

Recommended

PageStream 2.2 from SoftLogik is the best professional-quality DTP package in the £200 price range, but you'll need extra RAM memory. A great option for beginners is *PageSetter* from Gold Disk, which is far cheaper, is aimed at beginners and is about

reas!

from Digita is good because it has lots of great extras and the biggest spell checker and thesaurus in the business. It's a very sturdy program with loads of features but it will set you back over £100.

SCANNERS

A great way of getting photographs into your DTP pages, hand scanners 'read in' pictures bit by bit as you draw them slowly across a photo and they store the image as an IFF picture file, so you can also use them to get raw material for your paintings. Most hand scanners are in mono and they can only read fairly small pictures.

Recommended

Far and away the best hand scanner is the PowerScan Pro 2 from Power Computing – and it's also one of the cheapest at around £100.

The scans you get can be black-and-white or 16 shades of grey, which can look a lot better.



The hand scanner is a great way of getting black-and-white pictures for use in DTP documents.

It's fast, it's cheap, it's neat, and a version that works in full colour is out probably by the time you read this at about twice the price.

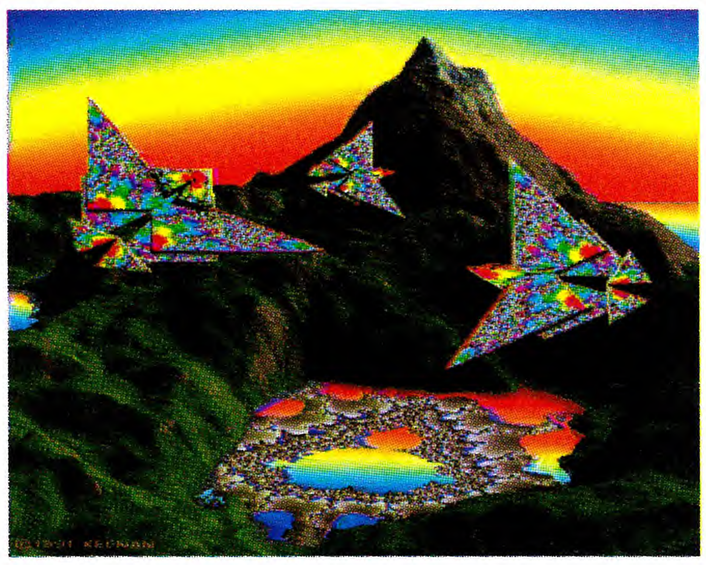
PAINTING

Amiga painting is essentially done by changing the colour of each little block of colour on the screen (called 'pixels'), though a paint program has lots of tools to help you draw different shapes and make interesting effects. Yes, you can even paint with Tartan paint!

Normally, as in games, the most colours you can have on the screen is 32, but it's also possible to paint with all the Amiga's 4,096 colours by using a screen mode called HAM. Painting is, above all, fun.

Recommended

You've got it already. For painting in anything up to 64 colours, *Deluxe Paint III* is the business. One obvious step up is to *Deluxe Paint IV* (phone



You've got the great *Deluxe Paint* software, but the new version can use lots more colours!

Electronic Arts to ask about the upgrade) which has similar amazing features but also lets you paint in 4,096 colours. It's a winner.

3D GRAPHICS

This is the sharp end of computer graphics and, while it takes lots of extra RAM and hardware expense, the results can be amazing. 3D program

VIDEO DIGITISERS

A great way of getting images from photos or real life into the Amiga, so that you can put them into your paintings. Plug a video camera in and the picture is displayed on your Amiga, and then you can 'grab' it as an IFF picture file. The simplest video digitisers use black-and-white cameras: they create colour pictures by combining three 'grabs', one for each of the red, green and blue colours that make up a TV picture. Grabbing is also lots of fun!

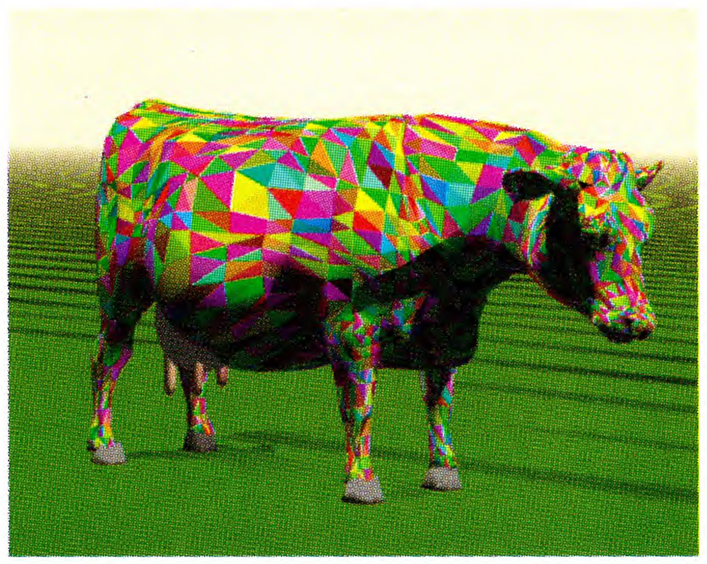
Recommended

An ideal place to start is with the Complete Colour Solution which comes from Rombo. And, for over £150, brings you (all in one pakcage) a mono-only digitiser that is able to store small animations; there is a colour adaptor for great colour pictures and a thing



Using a video digitiser, you can 'grab' pictures from almost anywhere to use in your paintings.

called an 'RGB splitter' which makes it easier to get the three red, green and blue parts of a colour image.



The kinds of pictures you can create with a 3D modelling program are limited only by your imagination.

are used to 'model' shapes as sets of 3D coordinates. These models are then 'rendered', a process that defines how light reflects off the objects, where shadows fall and so on.

The results of this kind of work can be anything you want them to be, from the weird and abstract to amazingly lifelike. One of the most popular uses for it, and where you will see it used time and time again, is in the making of marvellous sci-fi space scenes.

Recommended

Imagine 2 from Impulse is quite astonishingly powerful and costs well over £200. A good alternative is *Real 3D* from Activa, which costs around £150 in a special beginners' version.

Both are of latest generation of 3D programs . They are much, much more powerful and (luck-

RAM EXPANSIONS

If you get into DTP or serious graphics in anyway other than as a very side hobby, you will find that extra RAM becomes a necessity.

RAM stands for Random Access Memory, that is memory that can be written to, and read from. RAM is also used to run programs in. You should note, however, that RAM is erased everytime you switch your Amiga off.

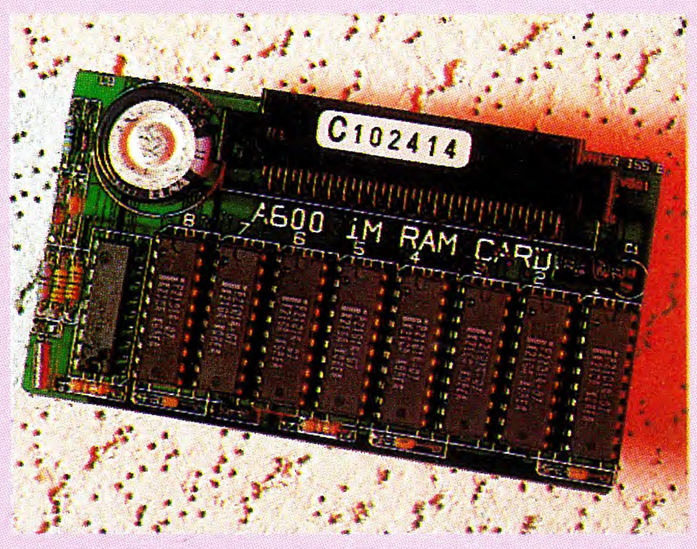
There are two ways of adding more RAM to your A600 (whether it is the hard disk version or not). One is to plug it in to the 'trapdoor slot' underneath the Amiga, which will take an extra 1Mb for 2Mb in total.

More RAM, in theory you can add up to 8Mb, can be added on the 'credit card' (PCMCIA) slot on the side of the A600, but this is a new technology and, for the moment at least, credit-card RAM expansions are only just beginning to appear.

So for the time being, your best bet is to start off with a 1Mb trapdoor expansion which will cost you around £60.

Possibly the best trapdoor expansion is the Amitek A600 from Silica. This comes with an on-board clock which is charged up as the computer is used.

Other options are ZCL's 601C, which comes complete with a battery-powered clock, and the official Commodore A601 RAM expansion, which was developed specifically for the A600 and, since it comes from the makers of the Amiga, has good credentials.



Extra RAM (Random Access Memory) is vital for many advanced graphics programs.

SOUND SAMPLERS

An ideal way to get into music. With a sound sampler you can plug a sound source (hi-fi, TV or microphone) into your Amiga and create sound samples which you can then use to create your own tunes. This is the technique that has made the whole 'acid house' style of music possible (you can probably do a great deal better with a little effort and some time spent learning about your A600). Even cheap samplers now come with a sequencer to let you build up your tunes.

Recommended

The ideal starting place is Technosound Turbo, the quality of which belies its £35 price. It even comes with a sequencer which you can use to write complete tunes.



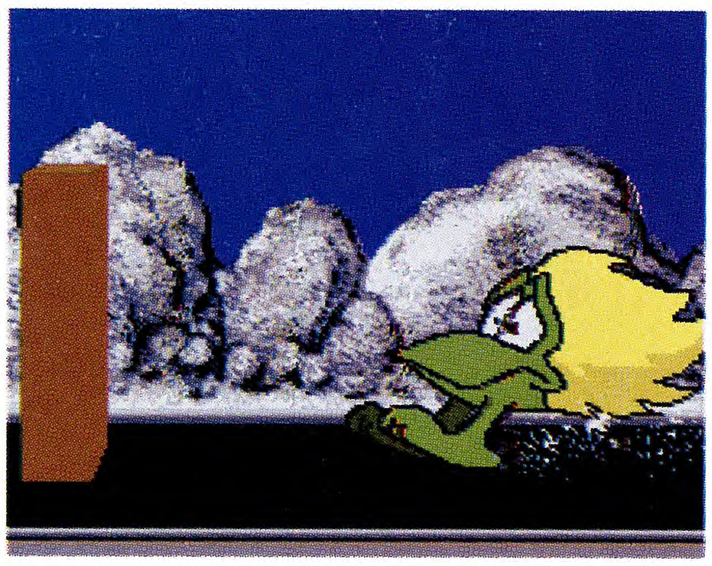
Sound samplers are not expensive, fun, and are widely used in many top-selling records.

ily for new users) they are easier to use than the older generation of 3D software.

ANIMATION

Gone are the days when only Walt Disney and his thousands of artists could make cartoons. Animation is simply flicking from one picture to another on your Amiga screen to give the impression of movement.

It's simple and fun, and the best way to start is by using *Deluxe Paint* to learn how to make your own cartoons. After that, you might like to get a program that will let you add sound effects to your animations.



You, too, can create amazing cartoons like this one – with a little bit of patience and a dash of practice.

Recommended

Buy a PD disk (see PD Demos, below) with one of the amazing cartoon animations by Eric Schwartz (see ***Amiga Format*** most months for examples of the works of this demo genius). Then try out the program he uses, *Moviesetter* from Gold Disk, which uses a simple method to create cartoons with a soundtrack.

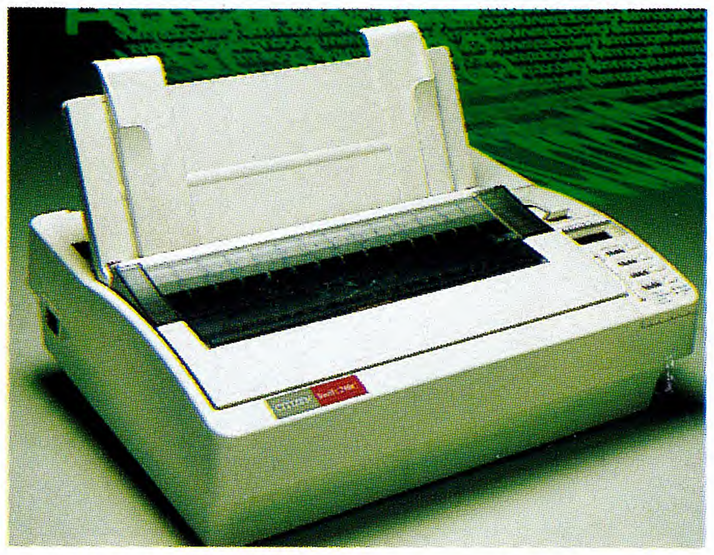
PRINTERS

If you want to print out your pictures, your letters, your desktop published pages and so on, you are going to need a printer. There are lots of these essential devices available for the Amiga – with more and more arriving everyday of the week. And they fall into three basic catagories:

The highest-quality printers, laser, inkjet and bubblejet printers, work only in black and white: the best bet in colour printers for your pictures are dot-matrix printers.

Recommended

For black and white dot matrix printers with an option for colour, the 9-pin Citizen Swift 9 at



There's little point in creating great pics, or composing incisive letters if you can't get them on paper.

around £300 and the 24-pin Citizen 240 are both good bets. In the mono-only high-quality field, the Canon BJ10ex bubblejet at just over £200 gives extremely good quality at a very low price, and it's small and quiet too.

BUSINESS SOFTWARE

The stalwarts of the computer office are the spreadsheet and database. A spreadsheet is a kind of calculator. The database is the ideal way of storing and retrieving information – it's great for use with other hobbies.

You can, for example, make a catalogue of your records, your videos or your stamp collection then use the database to pick out particular things you are looking for – all your Arnie films, all your triangular stamps and so on.

If you worry about your finances, you can also get accounts programs to help you out. None of the ones designed for small businesses are particularly good, but there are a couple for home finance that can help you keep track of where your money goes.



Many successful businesses use Amigas everyday to streamline the basics thus enabling creative thought.

Recommended

The very best database is *Superbase Professional 4* from Oxxi-Aegis at around £200, but its small predecessor *Superbase Personal 2* from Precision is ideal for home use and about a quarter of the price. Great for home use.

The best spreadsheet, similarly, is the £160 *Professional Calc* from Gold Disk but again, and friendlier, older, smaller alternative is *Advantage* from Gold Disk.

A good bet for looking after your bank account is *Home Accounts 2* from Digita, which will help you budget your finances and balance income against expenditure.

Finally, an all-in-one pack called *mini* (sic) *Office*, from Europress Software, combines a good spreadsheet, word processor and database in a value pack.

VIDEO

If you're into home video, you can use your Amiga to create titles, captions and even graphic effects sequences for your video. Just use *Deluxe Paint* to create your titles, then get a gadget called a genlock.

This will combine the Amiga's picture with a video picture, effectively putting the video picture into any area you've left blank on the Amiga screen. It's very easy to make your home movies into professional-looking productions.

Recommended

The Rendale 8802 genlock from Marcam is expensive at over £100, but it's very good. A cheaper alternative at just under £100 is the RocGen from Roctec.

HARD DISK DRIVES

A hard drive is a permanent storage facility with a capacity many times that of a floppy disk (or in fact several floppy disks).

Rather than waiting for you to insert a disk when you switch it on, an Amiga with a hard drive will boot up automatically from the hard drive – as A600 HD owners will know. This makes the whole process of getting to work with your Amiga much quicker and much, much easier.

Hard drives are also ideal for storing programs that you use a lot. These big disks are also godsends when it comes to saving the data you create with programs (be it saved games, saved Deluxe Paint pictures, saved animations, whatever – and you don't have to fiddle with disk lables. The average hard drive, for instance, is almost bound to contain a copy of Deluxe Paint and some paintings, and a word processor program along with some letters or documents. They also contain all the contents of your Amiga's essential Workbench disk, to help you handle all your files.

There are two ways of fitting a hard drive to your A600: a small IDE-type hard drive can be plugged in inside the case, or a SCSI-type hard drive can be connected to the 'credit card' slot. Unfortunately, neither type is yet available, which leaves A600 HD owners looking pretty smug: keep an eye out for new developments in *Amiga Format*.

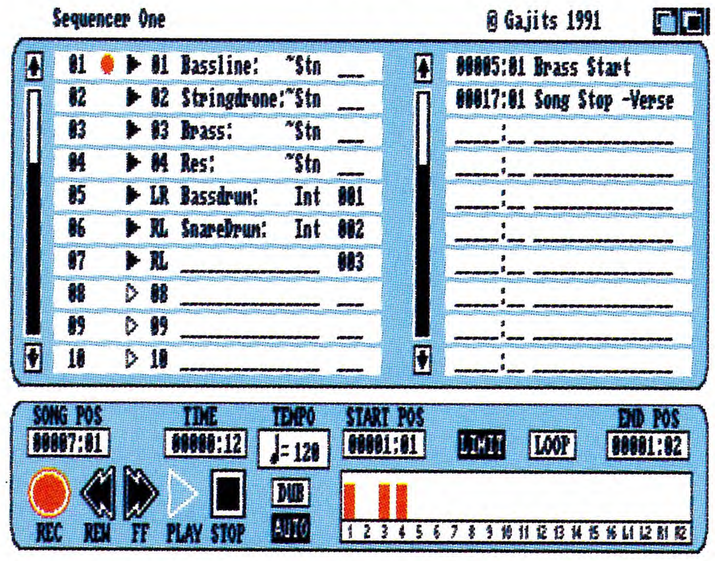


Splash out on a genlock and you'll be able to combine Amiga images with video pictures. Clever stuff!

MUSIC

Making music on your Amiga is lots of fun. A program called a sequencer is great for writing complete tunes, then playing them back to see how they sound.

Start off with sampled sounds to make up your tunes, then progress to using MIDI (musical instrument digital interface) to plug in a synthesiser which your Amiga plays for you!



With a sequencer, you can compose tunes much more easily – and your Amiga can play them!

Recommended

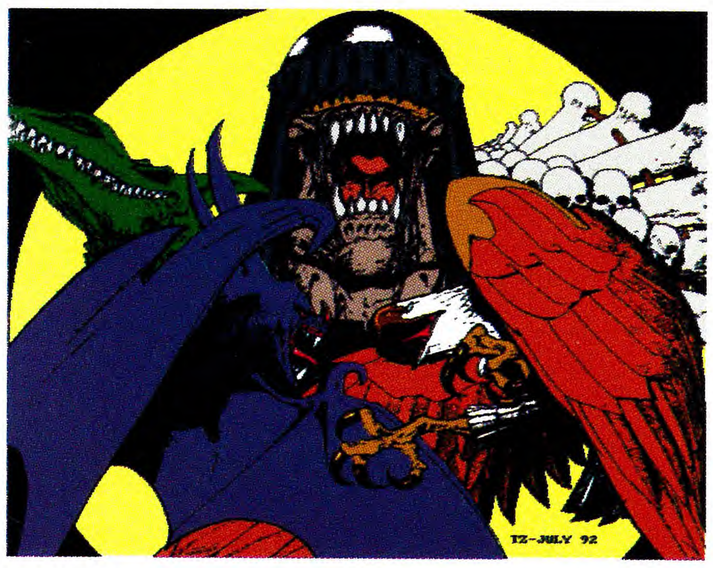
An ideal way to start is Gajits' *Sequencer One Plus*, which is a cheap and easy sequencer that comes with a whole range of sampled instruments. The original *Sequencer One* program was available free with Issue 30 of ***Amiga Format***.

If you're bitten by the bug, buy a synthesizer and move up to the amazing Dr T's *KCS* program, which costs over £200 and is used by professional musicians.

PD (PUBLIC DOMAIN)

Yes, you can get some brilliant software for only £2 or £3. PD software is stuff that the author has programmed for fun and allows other people to use. There are variations, one major one being 'shareware', where the author asks you to send a small sum of money if you like the program.

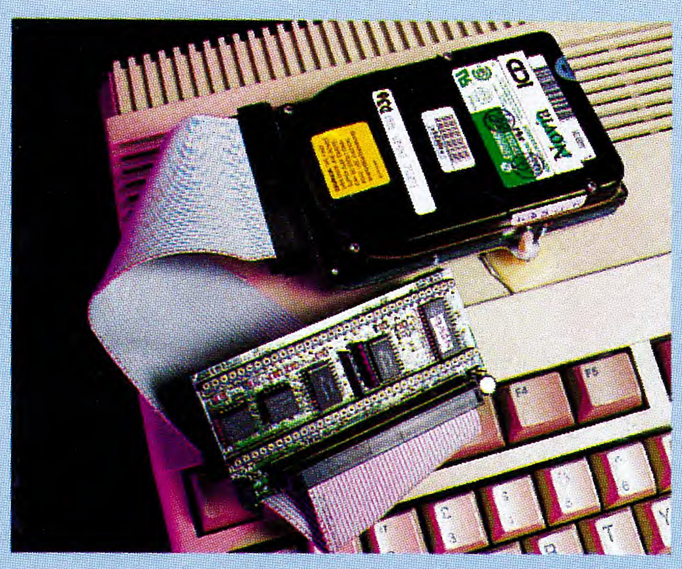
PD is mostly distributed by PD 'libraries', who charge about £2-£3 per disk to cover the cost of the disk, plus duplicating fees and admin overheads. But once you've got a PD program, you can copy it and give it to friends provided you do not change the 'read me' text file that states who wrote the program and so on.



Public Domain software can represent excellent value for money – some is useful, some just fun.

In the Public Domain you can find utilities for nearly all of you computing needs; programs such as virus checkers, communications software and almost any other kind of software mentioned above. You also get games, particularly some impressive conversions of classic old arcade games.

One exciting part of the PD is the Demos scene, where musicians, graphic artists and programmers show off their skills. These disks are pointless but fun, with whole cartoons and even complete sixty-minute acid house dance-music albums available.



Hard drives such as this one, are faster and bigger than floppies, and will soon be available to you.

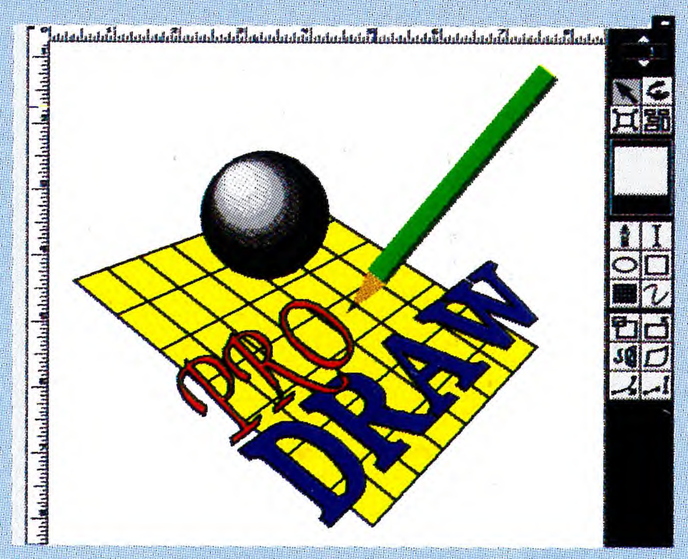
DRAWING

Unlike paint programs, which deal with blobs of colour, drawing programs deal with lines which can be bent, twisted and reshaped at will. Areas between the lines can be coloured in for full effect.

They're the ideal way of creating illustrations for DTP because 'structured drawings', as they are known, can be printed at any size and will still look sharp.

Recommended

Professional Draw 3 from Gold Disk, which costs over £100, is the best program there is for this kind of illustration work. There isn't really anything cheaper to do this kind of job, however, so try it out.



Drawing packages mean you can create sharp, smart illustrations in full colour.

Recommended

ZeroVirus III is an excellent virus-checking utility; Jeff Minter's Llamatron is one of the best shareware games ever seen; and any of Eric Schwartz's animations, particularly At the Movies, are well worth seeing.

COMMUNICATIONS

Buy a gadget called a modem and you can plug your Amiga into a telephone socket and talk to other computers all over the world. This is particularly useful for downloading PD software (see below) from 'bulletin boards', as well as talking to other computer users on 'networks' and even taking part in long-distance games.

Recommended

The best modem we've ever seen is the Supra FaxModem which, as its name implies, can also be used as a fax machine. But is costs nearly £250. A decent Amstrad modem can be had for less than £100 and the best communications software is from the Public Domain, so it's much, much cheaper than commercial products.

PROGRAMMING

Yes, you can create your own games – and anything else you care to turn your hand to, too! Don't be too ambitious – it takes a long time to learn how to program – but you should enjoy it along the way.

Recommended

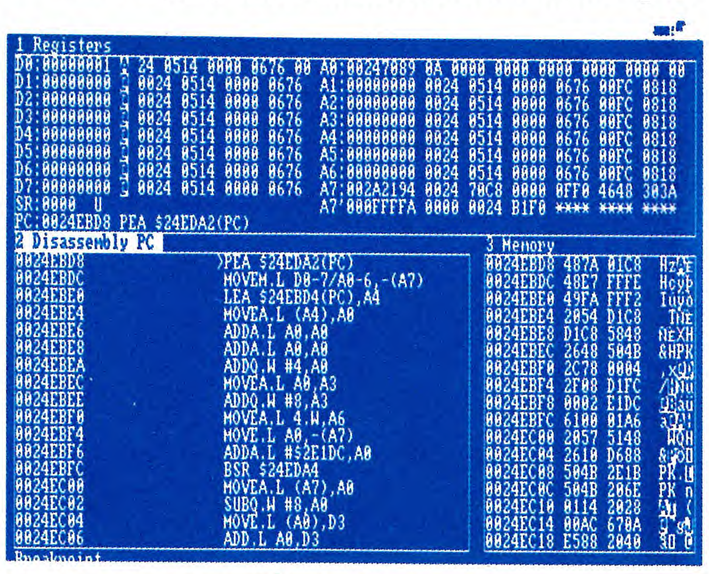
Beg, borrow or buy a back issue of ***Amiga Format*** issue 39, with which we gave away the assembler programming language *DevPac 2*.

This is the high-end language that the professionals use to create Amiga games, and we ran a tutorial by Bullforg.

This highly-acclaimed team that was respon-



Plug a modem into the back of your Amiga and you can talk to other computers all over the world.



Yes, you can learn how to program your own games, but you must have a degree of patience.

sible for putting together the equally highly-acclaimed god-game, *Populous*, which shows you how to create your own games.

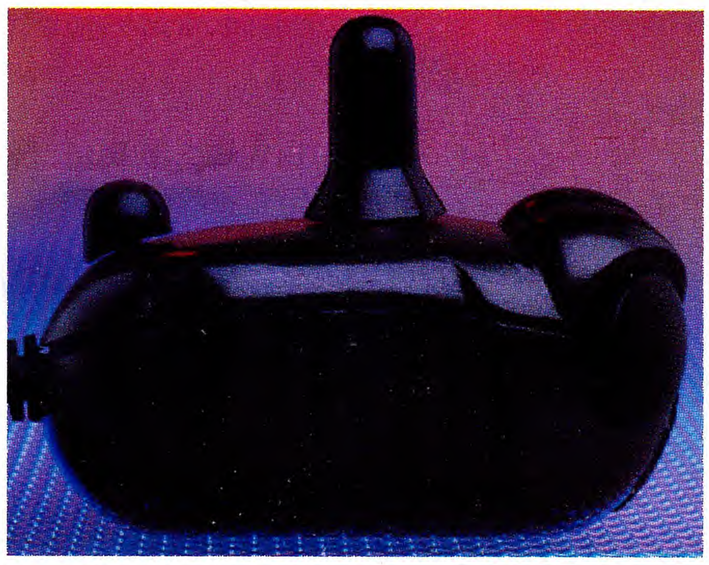
That aside, the best language to start with is the Basic-like Easy *AMOS* which is aimed at beginners and includes an excellent 'how to program' instruction manual.

MOUSE AND JOYSTICK

Yes, do it! You have to get a joystick if you want to play games and there are much, much better mice around than the one that comes with your A600. Good control makes your Amiga much nicer to use.

Recommended

Our favourite mouse is the Golden Image model which is solid, accurate, smooth and costs only around £15. The most popular joystick in these parts is a weird-looking object called The Bug.



Yep, it's pretty strange-looking. But then, joysticks come in all sorts of weird and wonderful forms.

OTHER SOFTWARE

You can get some strange and fascinating bits of software for the Amiga. Fractal landscape generators, for example, are amazingly good fun. These create realistic landscapes mathematically. One popular pursuit with these is to enter your birthday as the 'seed' number from which a landscape is generated, and see what your birthday landscape looks like!

Popular with sci-fi writer and Amiga owner Arthur C Clarke is an astronomy program called *Distant Suns* which can show you the night sky from anywhere on earth at any date, while the route-planning program *GB Route* can help you find your way from A to B in the UK as quickly as possible by road.

he Public Domain, described above, has a wide range of weird and fun programs too. There are, for example, astrology programs that can help you work out your star sign and associated characteristics; there are pools programs, that can help you analyse the footie results and, hopefully,



One example of the stunning software on your Amiga is this fractal landscape creator.

pick out the winning draws; and genealogy programs that help you trace your ancestors.

And that's just a taste of the many, strange and varied types of software available for your Amiga. There's much more, too. Read ***Amiga Format*** every month to find out about the latest software releases!

Recommended

The excellent landscape generator *VistaPro*, which is just enormous fun; or, alternatively, *Vista 1.2* which was given away with ***Amiga Format*** Issue 33.

OTHER HARDWARE

Yep, there's also many other kinds of hardware around, too, though much of it is extremely expensive and very specialised, so you probably won't want to rush out and buy it straight away. But here's a taster of some of the kinds of things you can lay your sticky mitts on.

Emulators are surprisingly popular gadgets. These are cards that pop into your machine and make it work like another kind of computer, running that computer's software instaed of Amiga software. IBM PC-compatibles and Apple Macintoshes can both be emulated. This is especially useful if you work on one of these machines and want to bring some work home to your Amiga.

Many other kinds of hardware are popular with graphics fans. You can, for example, buy a card called a 'flicker fixer' which slots into your Amiga and prevents the 'Interlace' screen mode from flickering. You can also buy 'accelerators', which are hardware cards that replace the 68000 CPU of your Amiga with a more powerful version of the same chip, so making it run faster.

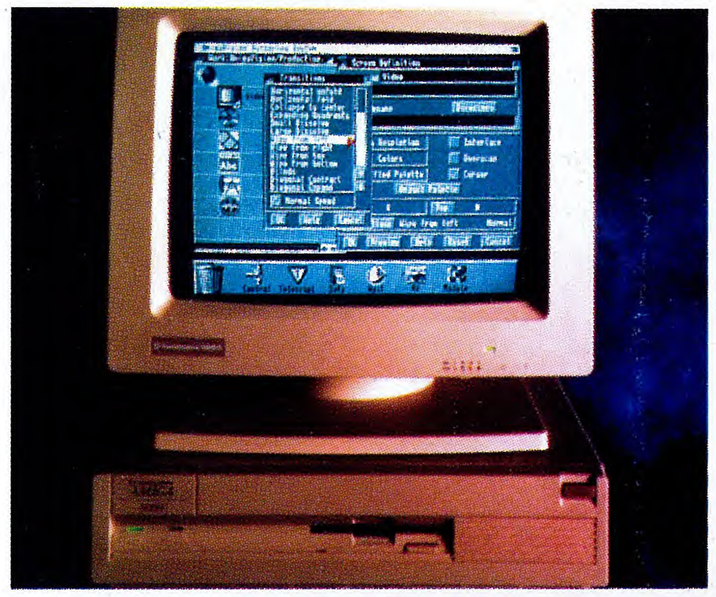
There's but one problem with some kinds of hardware on the A600, though. Because it's a very new machine, not all kinds of hardware are yet available for it. There are, as yet, no accelerator cards for the A600, though there are for other kinds of Amiga.

But fear not. The next couple of months will be an exciting time for A600 owners, as more and more kinds of hardware appear for it. And to keep up to date with what's going on, what would we advise? That's right – read ***Amiga Format*** every month, naturally!

Recommended

The best ideas aren't always the expensive ones. If you've got a big, modern, stereo telly with a SCART, Peritel or Euroconnector socket, then connect your Amiga up to it with an Amiga-to-SCART lead (from any local computer shop). The RGB picture is much, much better!

Last of all, remember that you can upgrade to a larger Amiga if, at a later stage, you get more ambitious. Bear it in mind!



Now that's what I call a hardware upgrade! Larger Amigas still run all the same software as your A600.

EDUCATION

If you've got young children of your own or a younger brother or sister, educational software is a good way of keeping them entertained (or keeping them quiet!) as well as teaching them about the computer, and at the same time helping them with basic skills such as reading or early maths.

Recommended

The *Fun School* series from Europress Software are particularly good at the pre-school end of the range, because young children find them accessible. You can leave them to play for themselves with the six little educational games on each disk.



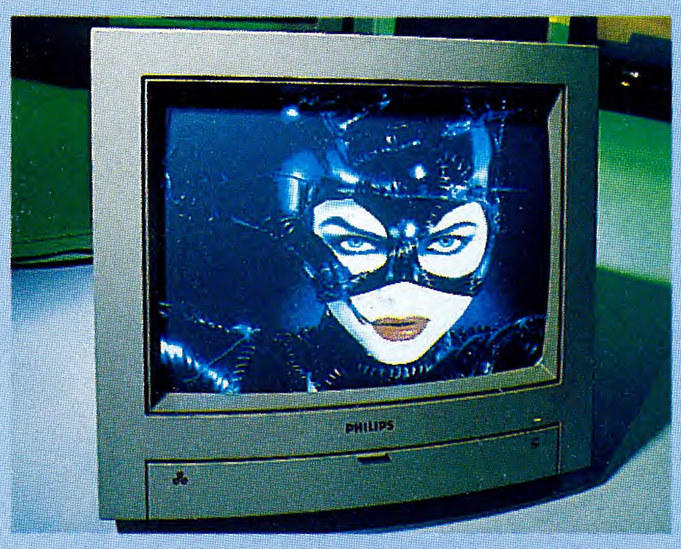
Most educational software is made up of little, fun games which children can handle on their own.

MONITORS

A monitor gives a much better quality picture than a TV, which is not only good for making games look even better but is also very useful if you're into painting on the Amiga and makes working on the Amiga, word processing or doing businessy stuff, a lot less of a headache.

Recommended

The most common and also the best Amiga monitor is the Philips CM8833/II which is widely available for under £200. Oh, and you get a free copy of the excellent game *Lotus Turbo Challenge 2*, as well! Make sure to get a lead that connects the RGB output plug on your Amiga to the monitor.



An RGB monitor gives a much clearer picture than you telly does, and this is the best one to buy.

BC KID



BC KID is a tiny big-headed prehistoric lad whose dear girlfriend has been kidnapped by nasty dinosaurs. To find her he will wander through various worlds including the stomach of a gigantic diplodocus and other delirious set ups.

- Brilliantly converted from the PC Engine by Factor 5, the team renowned for Turrican.
- Extremely colourful graphics with hilarious cartoony looks
- Excellent gameplay, fast smooth scrolling
- A splendid variety of boss stage monsters and baddies

"This is such a brilliant game that if you pass it by you deserve to be eaten by one of the monsters in BC KID's world! Don't think — buy!"
CVG 93%

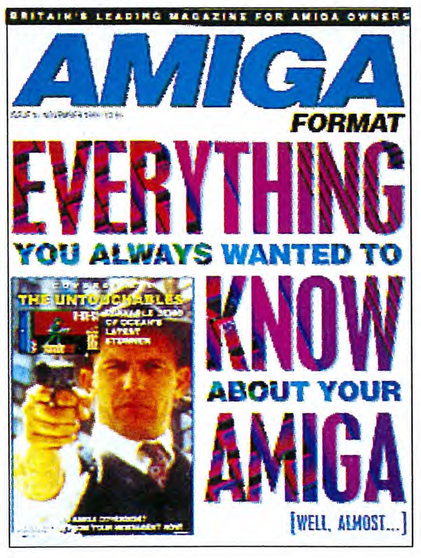
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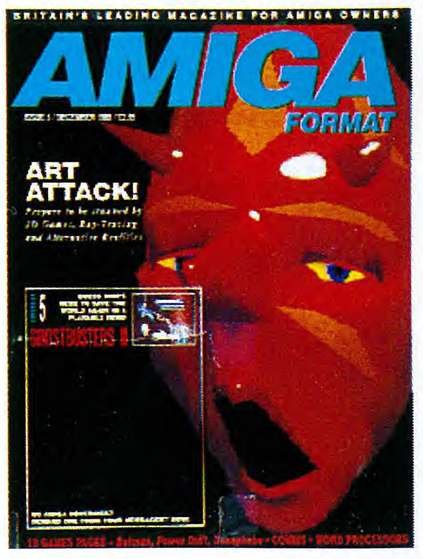
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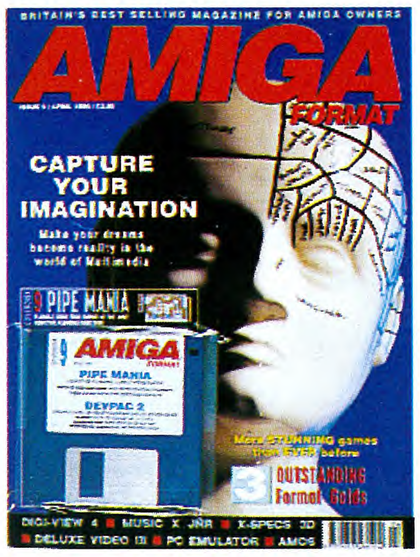

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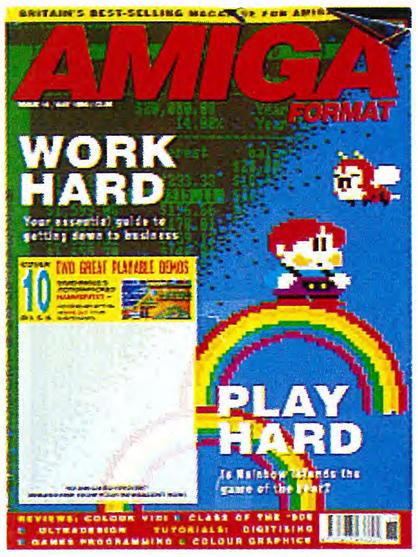

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GEMINI WING
DREAM MACHINE
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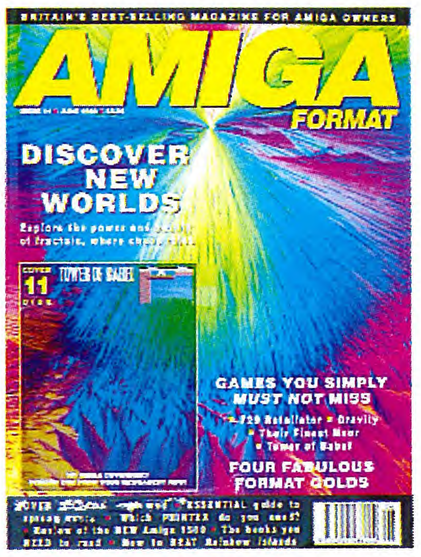

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DREAM MACHINE
NEW GRAPHICS SECTION

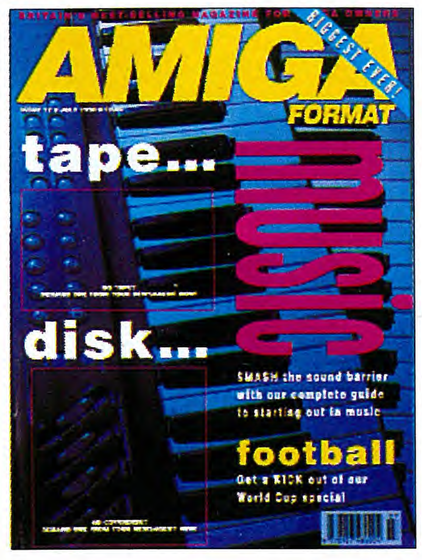

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YOU ALWAYS WANTED TO
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ABOUT YOUR
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(WELL, ALMOST...)


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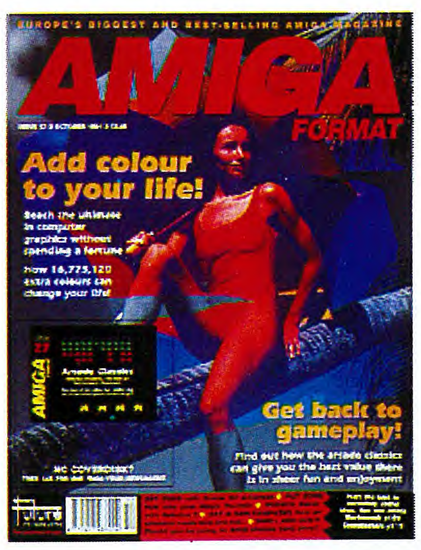

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GOT ONE OF THESE?
THEN GET THIS!
Vital information for all new owners

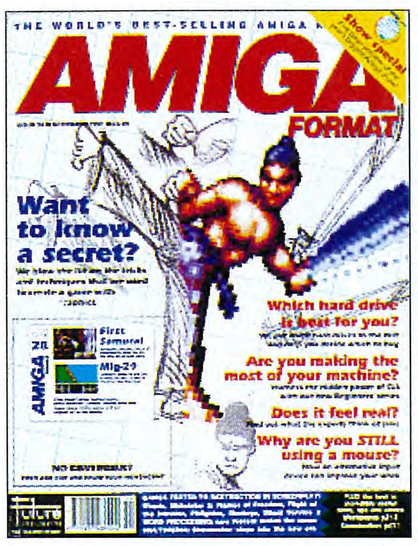

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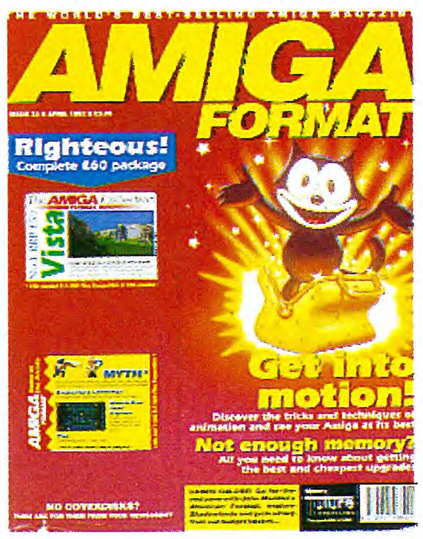

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Inside the new Amiga

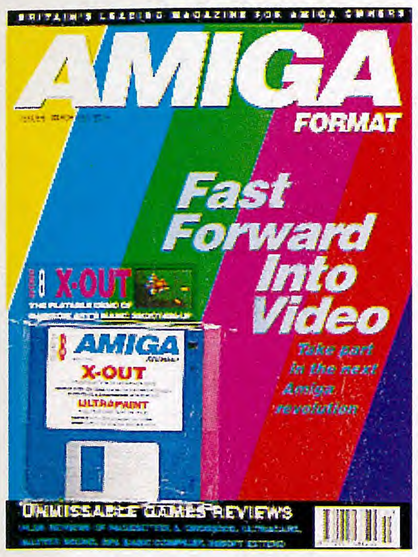

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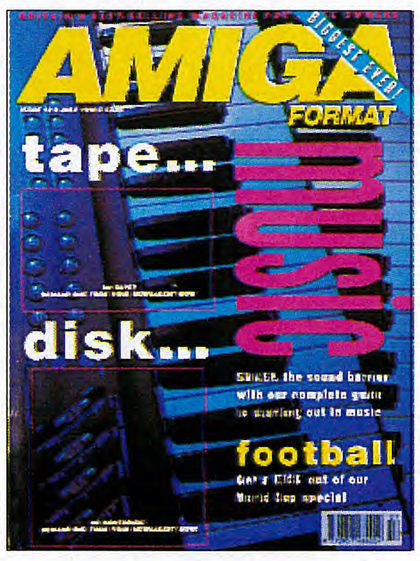




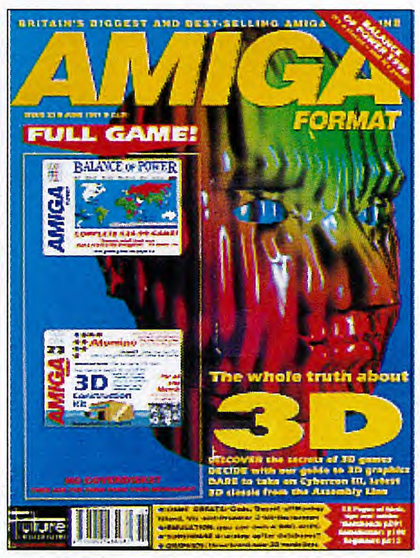














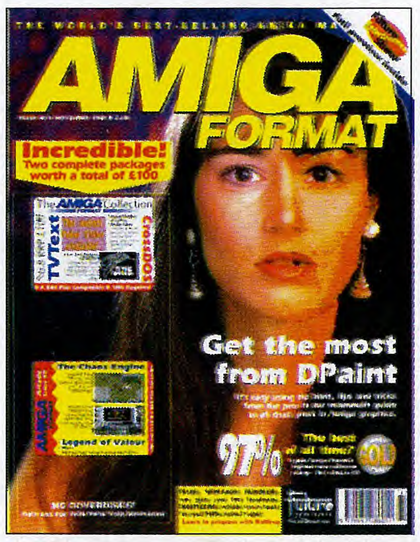












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AF/MIB5

"Dad! Dad! What's this Workbench
"Don't bother me now, I'm just
Workb

Month after month, Pat MacDonald and the A answer to all the technical questions that you is one of those areas that can turn your Amiga home computer. But how do you get yourself senger? With the help of Amiga Format and th you on a guided tour?

Many people believe that computers are immensely complex, requiring years of practice and effort to comprehend. If it were left to computers to decide, that would probably be true. But people have to use them, so there has to be an easier way. And there is.

With something as technically advanced as the Amiga, there's an obvious need for something which leaves you, the human, in overall command while the computer gets on with its business. That gap is filled by Workbench, the standard control panel or 'front end' for the Amiga. Inside the computer everything is stored as numbers, but using Workbench you see things as words and pictures – which makes it easy to get the most out of the machine.



FIRST CONTACT

Whenever you switch on your Amiga you always get the same picture – a disk going into the disk drive slot. It's telling you to put a disk in, but you don't always have to insert Workbench disk at this point.

Many disks will start quite happily without using Workbench. Most games do not use Workbench at all; these are called "self-booting". Such disks are protected against Workbench, to prevent people from copying them and giving copies to all their Amiga-owning friends.

If you try using a game disk with Workbench, nine times out of ten Workbench will not be able to even recognise it as an Amiga disk. "Not a DOS disk" is the standard message it will give you.

But many disks, and the Coverdisk that you will find on the front of every copy of Amiga Format is an example, will need the Workbench disk to access programs, thereby cramming more information onto the disk. If you think about it, this is quite logical. If a disk doesn't need Workbench, then it must have some parts of Workbench on it already, or it couldn't work.

STARTING UP

Now you have some fundamental principles to go on, it's time to start using the Workbench disk. First, make sure that the disk is 'write protected' – the plastic tab in the corner of the disk should be moved so that you can see through the hole. Nothing can be written onto the disk once this has been done, so you can't do any harm to it.

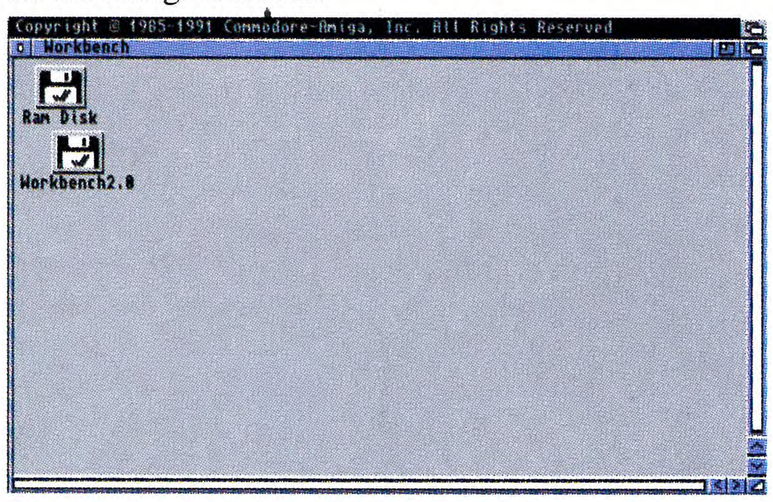
Assuming that your computer is switched on, insert the Workbench disk and wait for the drive light to go out (a signal that something has finished loading or saving).

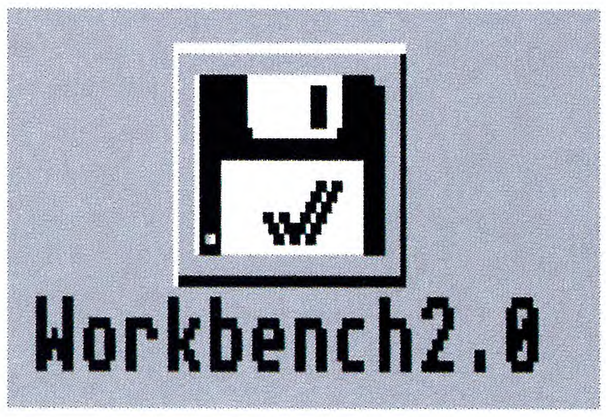
While loading, Workbench will display messages on the screen. Don't worry too much about these. They are there to let you know exactly what is going on with your Amiga. You can treat them more as a list of just what's going on (and a lot of things happen that won't appear in this list) than a catalogue of technical data that you have to make notes on.

● Once Workbench has loaded you will be left with a screen something like the one below (I say something like it because various tweaks and minor changes are made to the system which are not worth worrying about). Your first sight of Workbench! Boring or what?

Note the memory meter – the thing on the white bar at the top which says '816544 Free memory'. This shows how much of your 1 Megabyte memory is left free after Workbench has loaded in.

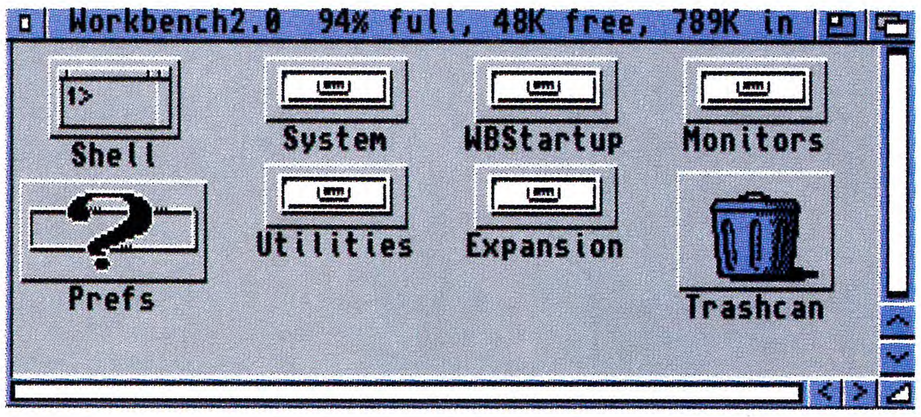
Before starting to look at the disk, you have to learn a few simple methods . Start off by just moving the mouse. Notice how the arrow on the screen, called the mouse pointer, follows wherever the mouse goes on the Amiga's screen.





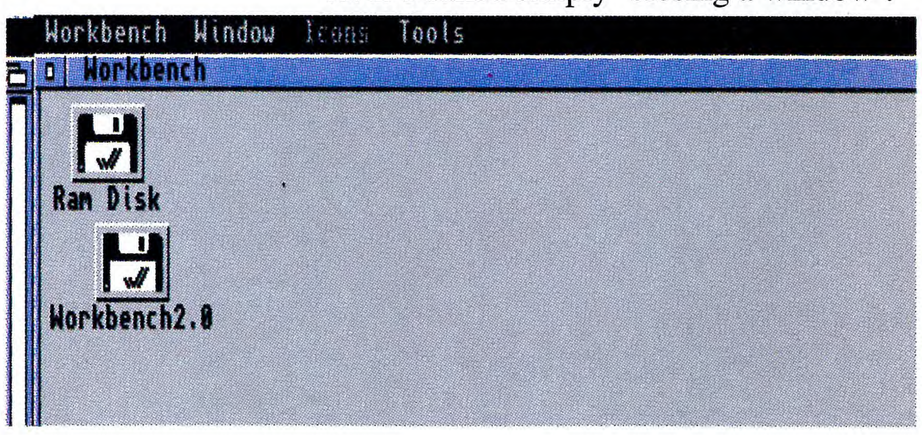
● Now move the mouse pointer on top of the picture of a disk marked 'Workbench2.0'. Click once with the left mouse button, and notice how the picture changes – its colours reverse, to show you have selected it. These pictures are called icons, by the way.

● Now try clicking twice quickly on the same icon, again using the left mouse button. This action is known as 'double-clicking' and doing it sets off whatever the icon does.



In this case, a window will open, displaying the contents of the Workbench disk. It should look like the picture below: but note we've cut out the rest of the blank Workbench screen, leaving just the open window.

● To put the window away, just click once with the left button in the box at the top left corner. Again, this is a standard procedure which you should soon get used to. It's called simply 'closing a window'.



● That's the left-hand mouse button sussed, so how about the right-hand button? This is used for one special purpose – to display any available menus. A menu is simply a list of options, a bit like a menu in a restaurant. If you press the right-hand button momentarily, you will notice four words appear at the top left of the screen: 'Workbench', 'Window', 'Icons' and 'Tools'. Holding the button down will keep the words there, just like in picture above.

● To look at the menus, move the pointer (using the mouse) to the top left of the screen, and keep the right-hand button pressed. Don't let go of the mouse button just yet!

Notice how the menus drop down, and how moving the arrow to the left or right makes a different menu appear. Try moving the mouse down over the menu –

disk for?"

getting into Putty..."

bench

miga Format team provide answer after have about your new computer. Workbench from a superb games machine into a brilliant into its driving seat rather than being a pas- hese pages. So why not join Pat as he takes

notice how the different options are darker when the mouse pointer is over them – what this means is that they are currently 'selected' – and also how some are faint or 'ghosted out'.



Those 'ghosted' options are not available for you to make use of. That's not to say that they are never going to be available, just that at this particular moment you can't use them.

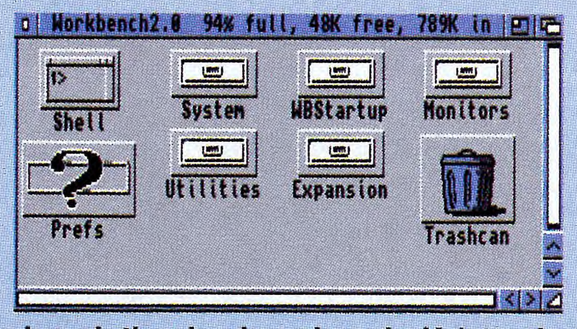
Move the pointer away from the menus and let go of the mouse button. If you had let go of the mouse button over a selected (darkened) option, you would have chosen it and made it active. There's nothing wrong with that, and we'll return to the menus later, but for the minute you should just concentrate your time and energy on the fun bit of exploring.

Make certain to take note that all of these control methods – moving the pointer with the mouse, clicking with the left button on icons and the right button for menus – are used by the vast majority of non-games programs. It's simple and dead useful.

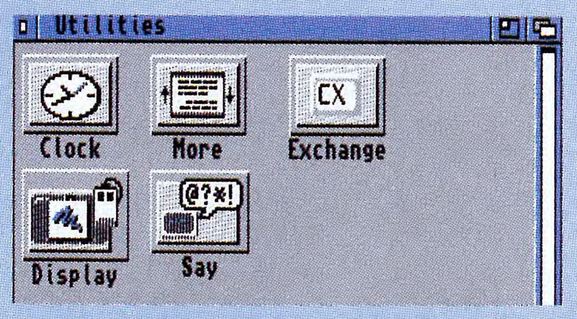
In your manual, the left-hand mouse button is known as the 'selection button' because you select with it and the right-hand button is called the 'menu button' because it makes menus appear.

Continued on page 46

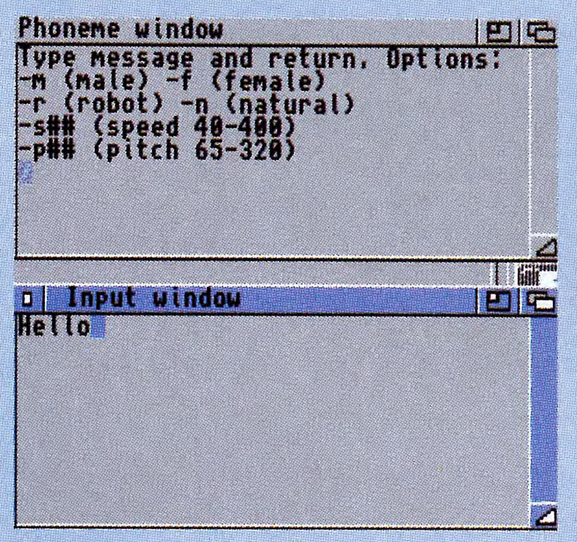
MORE ABOUT ICONS



Now move the pointer back to the icon marked Workbench2.0. Double-click again with the left mouse button, again the window will open. Notice that on the title bar it gives an indication of how much space is free on your disk. 94% full doesn't leave a lot of room for other programs. A more accurate description is also given in K (standard notation for memory - 1K = 1024 characters). So there's 48 X 1024 characters of space on the disk, and 789 X 1024 characters are used by Workbench.



It's time to explore. Try double-clicking (again with the left mouse button) on the drawer-shaped icon marked 'Utilities'. Another window opens, on top of the first. You'll see lots more icons with names like Clock, More, Exchange, Display and say. For this starter attempt, move the pointer to Say and double-click (remember, you double-click with the left button to make an icon work).



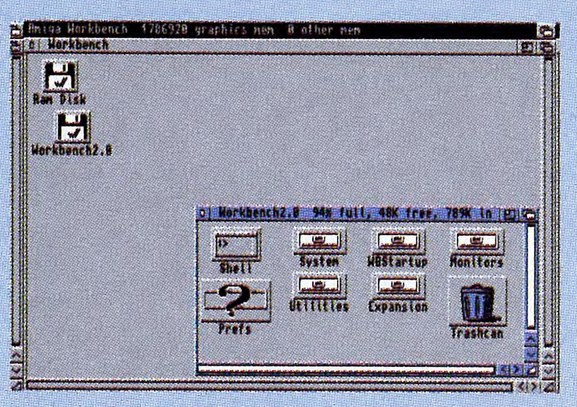
Two more windows will pop up, one where you type in words (don't panic - you can't press the wrong key in this example) and the other where the machine puts up information for you to read. Computer buffs would call one the 'input' window, and the other the 'output' window. Input and output are terms used all the time with computers. They mean information either going into a computer, or out of it.

The Say program is now running. Try typing out a word: Use Hello for the first example, and press the Return key. The computer speaks the word! The final "o" sound isn't there though - how do you get round this? And what are those strange numbers and letters appearing in the top window?

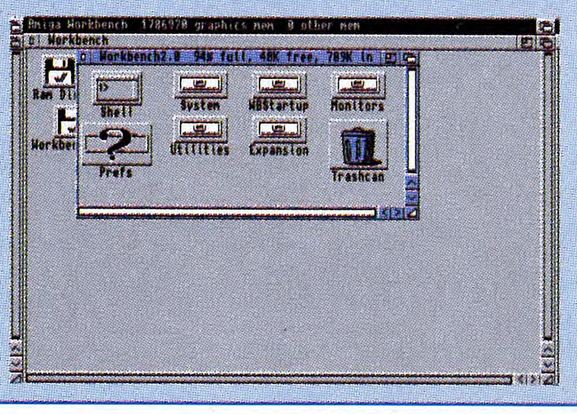
In the output (top) window, there are a couple of instructions which will gradually disappear, so I'll print them here. First, type Helloo - this will boost the final "o" sound. Press the spacebar to put a space in, and put -r after the space. Press return, and the computer speaks with a more robotic voice. It sounds a little better too. I promised to list all the effects possible. Remember, put a space after the word you want to effect. -m and -f are for masculine or feminine voices. -snumber alters the speed at which the computer speaks (put a number from 40 and 400 after the minus sign: no space). -pnumber alters the pitch (note) at which the voice speaks. Use values between 65 and 320 for the pitch.

What are those strange hieroglyphs appearing in the top window? They're the computer's interpretation of what you're putting in. To get a realistic sound, you need to misspell words, adding vowels (a,e,i,o and u) to get them right. Have a little play - when you're bored, click in the box at the top left corner of the input window to finish playing.

The positions of icons are not set in stone. Move the pointer to an icon, press the left button and hold it down. Move the pointer – the icon follows it! This is known as "click and drag", moving things to where you want them. Let go of the button to drop the icon.



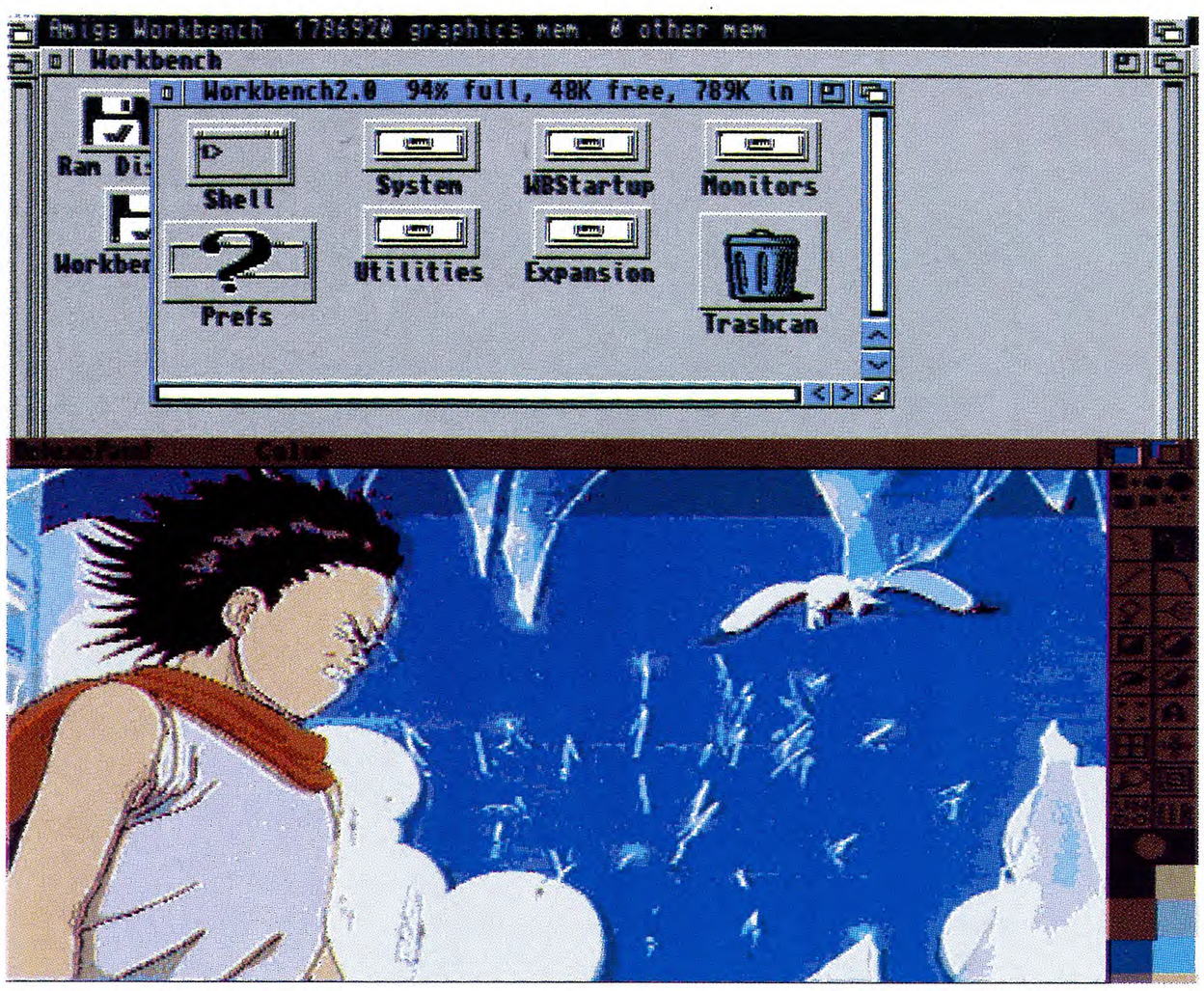
The same is true of windows, but you have to drag these by the bar at the top. You want to put this window somewhere else?

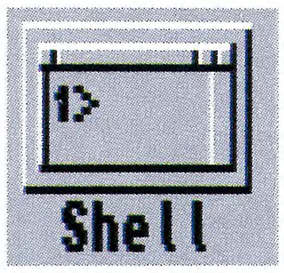


Just click on the top bar with the left button (it's really called the title bar) with the left left mouse button and hold it down. Move the mouse where you want the window to be, and let go!

SPLIT PERSONALITY

The Amiga has one dynamic advantage over any other popular computer. From the start, it was designed to 'multitask' – that is, do more than one thing at a time. You can, for instance, load in *Deluxe Paint III* twice, print out a picture with one of them, and while it's printing use the other one to draw more pictures!





ABOVE: The Shell offers you an alternative to Workbench, and uses the keyboard to interpret what you want the machine to do. Users of older breeds of computer will find themselves quite at home with Shell - but if you're unfamiliar with computers, expect to learn about it slowly.

LEFT: Any program that you run from Workbench runs in it's own screen, and you can drag the whole screen down to reveal the Workbench again if you want to.

HEART OF THE MACHINE

When the Amiga was originally conceived, it was not thought necessary to make it easy to use. Instead, you were supposed to type commands in manually with a keyboard to load programs and change bits on a disk.

This was so old-fashioned and silly that Workbench was invented, but it still had the keyboard entry system, called the Command Line Interface or CLI for short. It was there if you needed it, but you didn't have to use it.

The CLI was unforgiving of typing mistakes, so it was later improved to a better keyboard entry system called Shell, which lets you edit what you typed as you went along. It worked better with hard disks too.

The release of Workbench 2 has meant that a lot of the tasks that used to be performed with Shell can now be done with the mouse. But Shell is still there - and if you want to customise your machine precisely, Workbench lacks the flexibility for extremely intricate tasks. Shell still lives,

RIGHT, TIME TO REALLY START USING YOUR WORKBENCH!

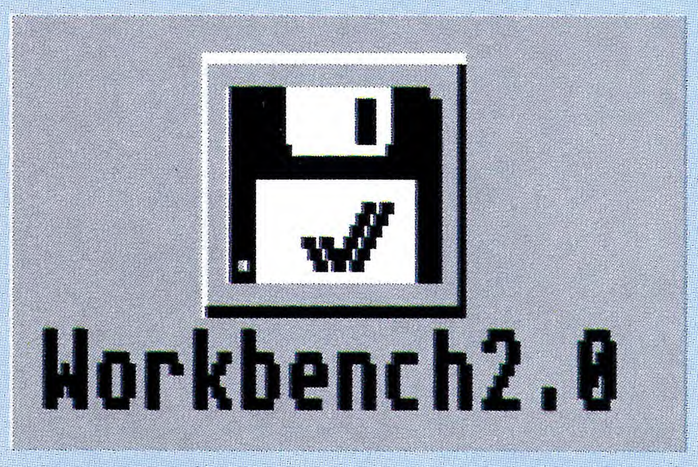
Now that you understand how to set programs going, it's time to delve a little deeper. First, let's start all over again.

Check that the drive light is not lit. Press the key marked Ctrl and the two keys either side of the spacebar. This is how you 'Reset' the machine: that is, start it off from scratch again without switching it off. Some people call it Control-Amiga-Amiga after the keys, or the "Vulcan nerve death grip".

Notice because you left the Workbench disk in the floppy disk drive, the computer starts loading it again straight away - you don't see the purple 'insert disk' screen, because a disk is already there. The purple 'insert disk' screen is a 'prompt', asking you to put a disk in, but it doesn't need to ask if you've already got a disk in.

Also note that this Reset idea isn't quite as good as turning the machine off and then on again - some parts of the Amiga's memory are erased. This can make odd things happen with some programs, but not often.

Don't use Reset if the computer is writing something to the disk - the disk will be corrupted. Always check the drive light first.



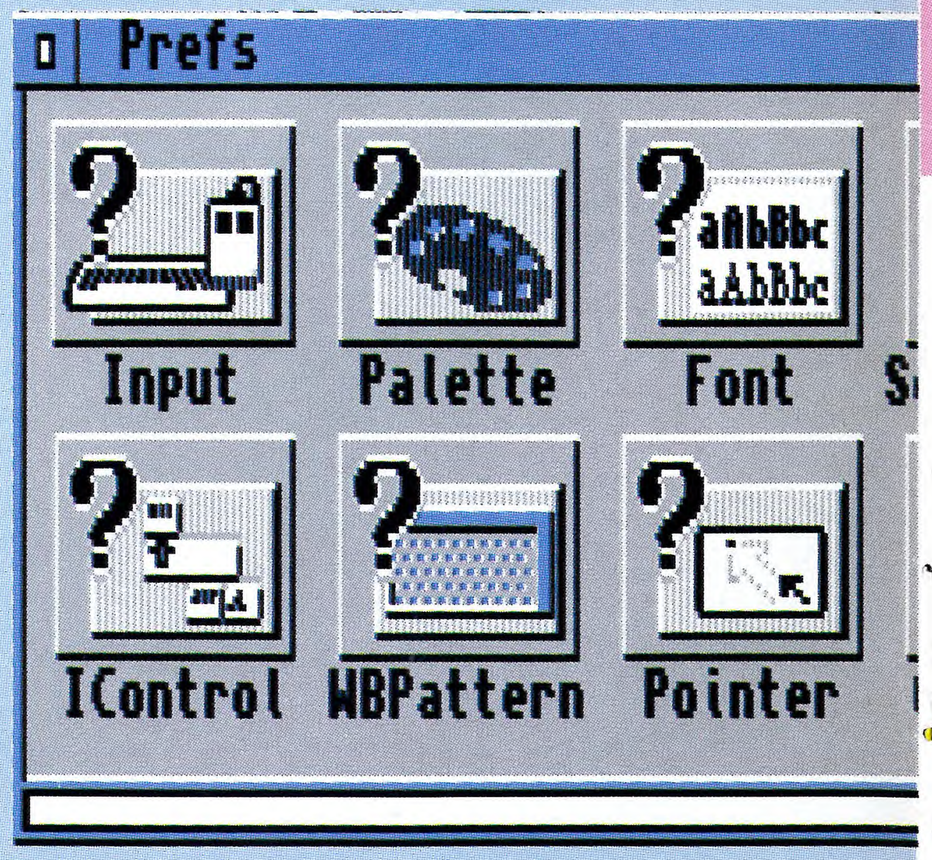
● When the Workbench2.0 icon appears, double-click on it to open the Workbench2.0 window. There's one particular icon called Prefs which you should now double-click on to open the window on the right. This is the Preferences window and contains a number of different programs for changing Workbench.

From within Preferences you can tweak your Workbench to your exact needs. If you want to do this, make sure that all changes are done on a COPY of the Workbench disk and that some of the things you do might need to be saved to disk. The original should be put aside and never, ever changed. If you use it, one day it will die on you - and how do you use the machine after that?

INPUT: Used to alter the speeds at which the mouse and keyboard operate. If you find them too fast or too slow for you, this is the place to adjust them. Just click on the sliders and move them up or down.

ICONTROL: Because Workbench is a multitasking system (see Split Personality) it needs command keys to enable you to switch between programs and Workbench. This program displays the keyboard combinations, as well as other information used to display icons and windows. You can change these too, but the effects are unpredictable.

PALETTE: Change any of the screen colours used by Workbench with the Palette icon. Click on the colour and then click and drag the sliders to adjust the red, green and blue contents of a colour.



WBPATTERN: One thing you'll have noticed by now is that most of Workbench consists of a blank screen. To make it a bit more presentable you can put a backdrop pattern over the background. Either select a preset or design your own using this program.

POINTER: The pointer which you move using the mouse can easily be customised with this program. al you need do is design it on the grid, select Use to try it out, and if you're happy with it run this program again and select Save.

OVERSCAN: TVs and monitors differ slightly in their specifications.

If you find that you can't see one edge of the Workbench screen, use this program to reposition the whole screen. Click and drag the black boxes to move the screen - simple once you've had a play.

and you should learn how to use it eventually. For now, learning about Workbench is enough.

TODAY'S MENUS

There are three choices from the menus that you should be wary of, and they're all on the Icons menu, out of harm's way. Hold down the right mouse button and move the pointer with the mouse to the Icons menu, to have a closer look.

The items in question are Delete, Format disk and Empty Trash. If you click once on an icon (to select it) and the select Delete, the icon and everything it contains will be wiped from a disk. Format Disk can only be used on disk icons - if you've selected one of these and then choose Format, the disk will be wiped, ready for you to save some information onto it.

Empty Trash is a fairly clever icon. If you're not sure about whether you want to delete an icon or not, the best idea is to put it away in the Trashcan. You can double click on the Trashcan icon, and you'll still find the relevant icon there. The information will only be deleted when you click on the Trashcan (to select it) and then choose the Empty Trash option from the menu. Feel free to explore the rest of the menu options at your leisure. A lot of them only work if you have an icon or window selected. You'll quickly discover plenty of options to customise the way you see things on the Workbench.

Remember, you cannot damage anything on the disk IF the write protect tab is up (you can see through the hole). So explore for a while, and if you get stuck look at the manual, 'Using the Amiga Workbench'.

These three options are the ones to avoid at first. Feel free to play around with the others - you cannot hurt the Workbench disk if the tab is set correctly, and it's the best way to learn.

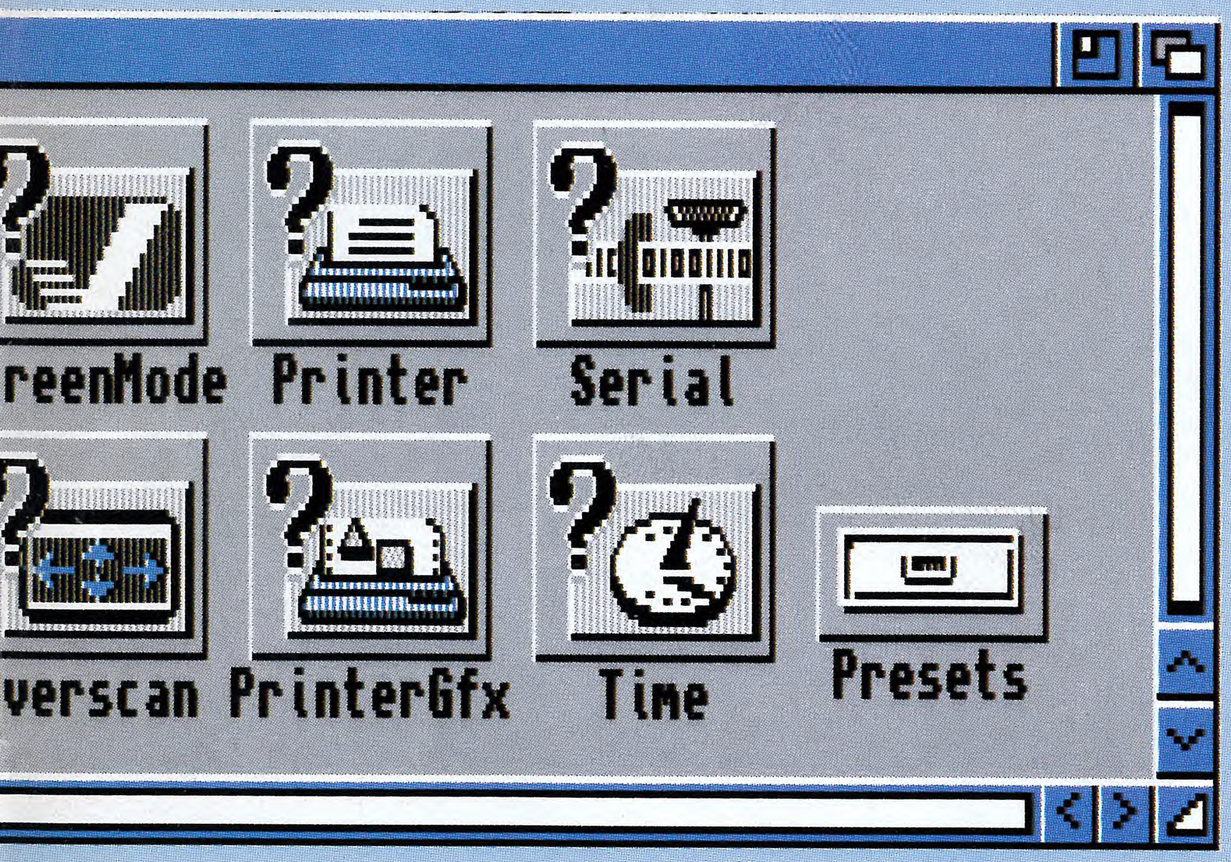


WE CAN HELP YOU EVERY MONTH!

Help! I've got a problem and none of the above tells me the answer! Don't worry. Every month in *Amiga Format*, there is a question and answer column designed to provide help with all aspects of the Amiga and it's called... Workbench! Buy the magazine and write in.

FONT: If you want Workbench to use a different font from the standard Topaz, you first have to copy it from the fonts disk to a copy of your Workbench disk Fonts drawer (only visible by selecting Show/All files from the menu). Then use this program to change font.

PRINTER: Similar to the Fonts program, the Printer program needs files from the Extras disk in order to work properly. Copy the Printer Driver that you want from the Extras disk to a copy of the Workbench disk (again you'll need to use Show/All files to see them) and then use this program to select it.



SCREEN MODE: Workbench can work in four different screen modes, but all of them (except the preset HiRes) flicker without an expensive multisync monitor. You can have up to 16 colours with HiRes, or four using Super HiRes.

SERIAL: If you are using a serial printer, then you'll need to change the settings of the serial port with this program.

PRESETS: This is an empty drawer for storing two or more different versions of configuration file. For instance, suppose you had two printers connected (one parallel, one serial). You could put both printers drivers into this drawer, and drag them out to the DEVS drawer when you wanted to switch printers. It's just a storage area for you to put things into that you only need sometimes.

PRINTERGFX: If you have a printer attached and you're finding the printout of graphics a bit suspect, start tweaking Workbench's graphic dump with this program. With trial and error, you'll find the settings which use your printer to the full.

TIME: Every Amiga can have a built in clock that remembers the time and date. Sometimes, the Amiga can forget this data. Setting it again is easy. Select this program, and click with the mouse until the time and date are accurate. The only time you have to use the keyboard is to enter the year – press the Del key to clear it first, then type it in.

WORKBENCH PROBLEM

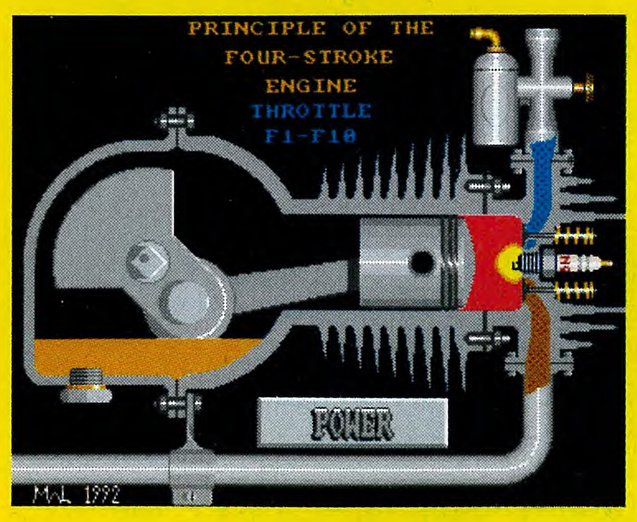
Workbench has one flaw. Every time you want to do something with a different disk, you put that disk in to do it.

But then the Amiga needs to look at the Workbench disk again, to find out how to do it. In short, you end up swapping the two floppy disks like crazy!

How do you get around this? The ideal solution is to have more than one disk drive. It doesn't matter if the extra drive is floppy or hard – just as long as Workbench is always available, your Amiga can find all the information it needs to carry out all of its functions.

IT'S ALL THE ADVICE YOU'LL EVER NEED

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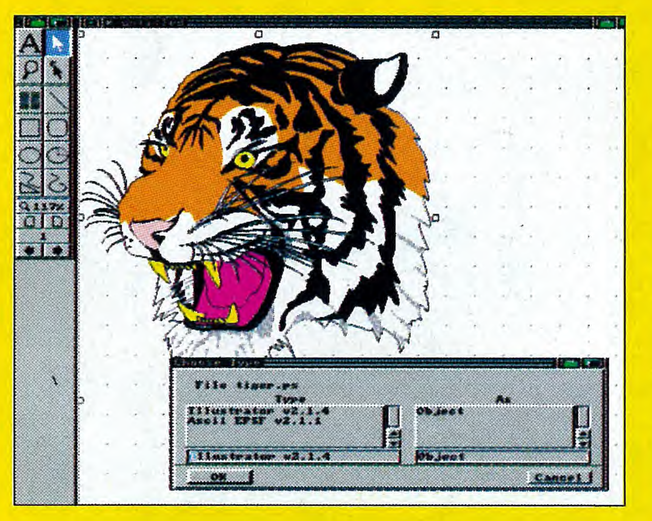
PUBLIC DOMAIN WORLD

There are thousands of free programs available for your Amiga. Shown here is one illustrating the workings of a four-stroke combustion engine. Every month we look at programs like this and tell you what to look out for

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REVIEWS

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WORKBENCH

We never ever forget that the Amiga is a straight-down-the-line super-charged computer as well as a great games machine. So in these pages we provide answers to your hardware headaches and software niggles. We also throw in a few tricks of the trade, and (you guessed it) we give away a few cash prizes.

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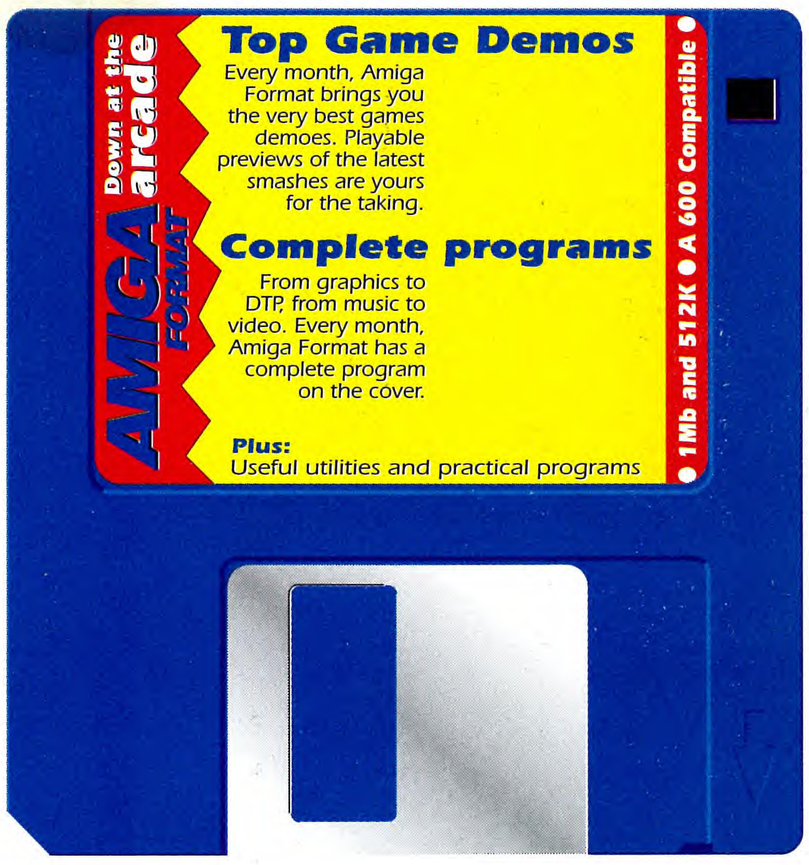
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BATTLETOADS™

YOUR PRIVATE PORTAL
INTO THE GAMESCAPE.
A DIMENSION WHERE
ANYTHING CAN HAPPEN...
AND DOES!

Zitz, Rash and Pimple...
the Battletoads!





Available for:
IBM PC and 100%
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Okay 'toads!
Let's get EVEN! When the evil Dark Queen kidnaps your best buddy, Pimple and the best looking Princess this side of the Mazallion Star Cluster - what are you gonna do about it? Are you gonna cry? Hide? Call the Starcops?

No way! Because you're a BATTLETOAD and BATTLETOADS don't cry, hide, or call for help. BATTLETOADS get real MAD - and then they get EVEN!

BATTLETOADS FEATURES:
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IT'S FAST... IT'S FURIOUS... IT'S TOADALLY FUNPHIBIAN!

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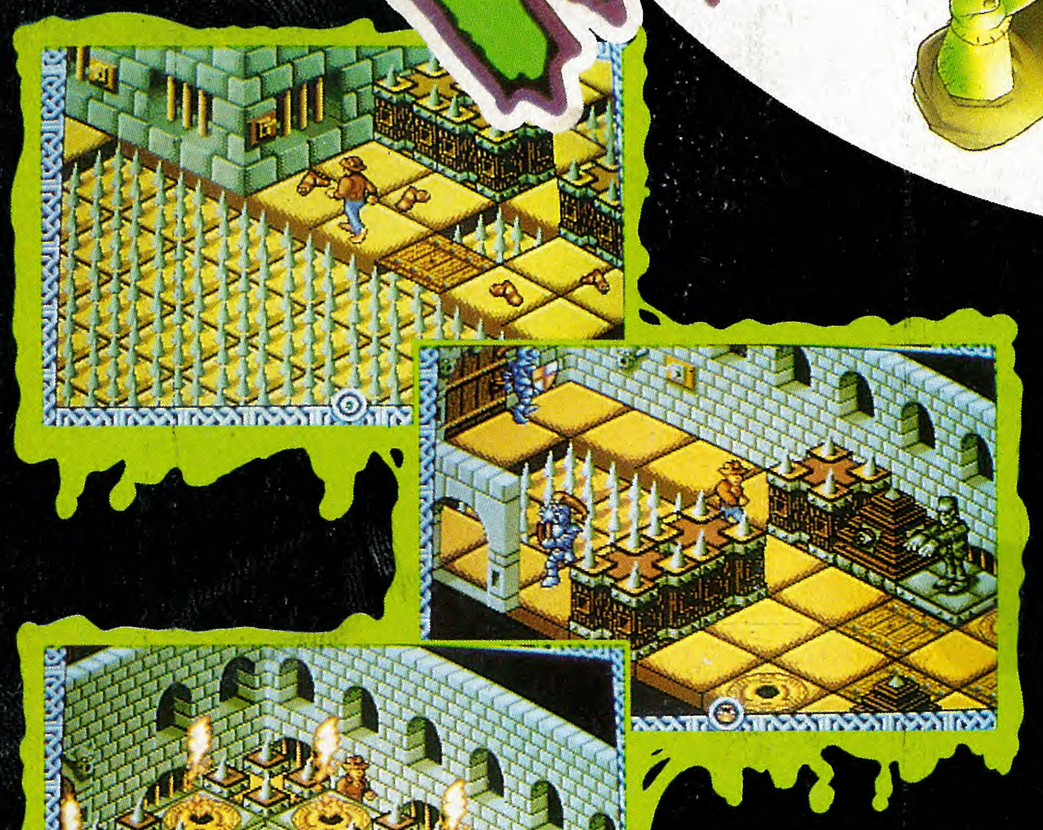
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